FDA/USDA TOWN MEETING ON MICROBIAL RISKS FOR FRESH PRODUCE

HELD ON: December 3, 1997

HELD AT: Cornell University, Jordan Hall, Geneva, New York

BEFORE:

RICHARD BALDWIN: Acting regional director of food inspection services, New York State Department of Agriculture and Markets

MARK MCLELLAN: Cornell University

MARVIN PRITTS: Cornell University

JOYCE SALZMAN: Center for Food Safety and Applied Nutrition

THOMAS GARDINE: Center for Food Safety and Applied Nutrition

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BEVERLY KENT: My name is Beverly Kent and I am with the Buffalo office of the Food and Drug administration.

Just a few administrative details:

The restrooms are located on the bottom floor. Keep making a right turn until you no longer can.

For lunch, if you turn right out of the parking lot and left at the first light there is a restaurant on the right. Or continue on the road and at the second light, make a left and there will be a number of fast food restaurants.

You should have in your package two documents, the guidance document and the Federal Register Notice dated November 28, 1997. There is some information in the Federal Register Notice I would like to mention. The written comment period ends December 17. Please be sure to list the docket number on your comment. The docket number can be found in the Federal Register. A list of the town meetings is also in this document, and how to request a transcript of the meeting, can also be found in this notice.

I would now like to go over the

agenda. If you would turn to the second page, at 1:30 there will be industry group presentations. If you are with an industry group and wish to give a presentation, please let me know at break. Now, I am going to have the panel introduce themselves.

RICHARD BALDWIN: Richard Baldwin, Acting Regional Director, Northeast Region, Food and Drug Administration.

JOE FERRARA: Joe Ferrara, Director, Division of Food Inspection Services, New York State Department of Agriculture and Markets.

MARK MCLELLAN: Mark McClellan, Cornell University. Welcome to Geneva, New York.

MARVIN PITTS: Marvin Pitts, Cornell University.

JOYCE SALZMAN: Joyce Salzman, Center for Food Safety and Applied Nutrition.

TOM GARDINE: Tom Gardine, Center for Food Safety and Applied Nutrition.

BEVERLY KENT: There are two more people, at least two more, who were actively involved in arranging the grassroots meeting. They are Camille Brewer from the Food and Drug

Regulatory Affairs, has sponsored in the last few years over sixty town hall or grassroots meetings on a variety of topics related to FDA's mission of consumer protection. Today, I encourage you to listen very carefully and speak frankly and candidly on the topic at hand.

First, I would like to tell you a little about the FDA. Then I would like to speak more specifically about the role of FDA in this initiative. FDA monitors domestic production of imports, transport, storage and sale of $570 billion worth of products annually. The Northeast Region encompasses the states of New York, Vermont, New Hampshire, Maine, Massachusetts, Connecticut, and Rhode Island. The NER is also one of the major import areas in the United States particularly along the Canadian border and the New York City area.

Among other things, it is FDA's responsibility to see that foods on American tables is safe and wholesome. Part of our role is to try to prevent problems before they occur. Assessing risks is at the core of the FDA's public health protection duties.

Based on our public health responsibilities, the President charged FDA to take the lead in developing a guidance document to assist farmers in minimizing microbial hazards. I must emphasize that we are developing guidance, not regulation. The President's Initiative does not require new regulations on microbial safety of foods. You'll hear that repeatedly throughout the course of the day and it is essential that you understand that not new regulations are planned on the microbial safety of food in the immediate future. Tom will address the issue of regulation more specifically in his presentation.

The task at hand is two-fold. First, we plan to review some of the major features of President Clinton's Initiative on Fresh Produce. Tom will give you a background of the initiative and the forces that led to it.

Secondly, and most importantly, we need your input into the draft guidance on Good Agricultural Practices. The draft that is in your information packet is just that, a draft. It represents our first stab at this issue. It reflects the preliminary thinking of the FDA and

USDA. The Produce Subcommittee on Microbiological Criteria in Foods, and advisory body to FDA has reviewed this draft. Their comments have been incorporated. Now, it is your turn to take a crack at it; to review it critically and provide your input. Comments from all over the country will be considered and incorporated, as appropriate in the final draft that will be published sometime early in 1998 in the Federal Register, a government publication. You get another opportunity to provide comments after publication of that draft. Then the official guidance document will be published in the Federal Register. It will also be posted, as will the draft, on the FDA web site. The Address of the web site is included in your information packet.

I don't want to steal Tom's thunder, so I will turn the podium back over to Ms. Kent. We are looking forward to a lively discussion with you later today.

(The Following are outlines of Mr. Ferrara's opening statements:)

MR. FERRARA: Welcome on behalf of the New York State Department of Agriculture and

Markets.

Brief overview of Division of Food Safety and Inspection and some insight into our role in protecting the food supply.

Staff - approximately 185 permanent, plus seasonals, harvest season.

Two primary areas of responsibility: Food safety and labeling; farm product grading and inspection.

Produce and egg branding law enforcement.

Focus on food safety - approximately 100 inspectors and supervisors, (field staff.)

Jurisdiction - 28,000 food handling establishments. Stores, food processors, warehouses, etc.

28,000 inspections.

Approximately 6,300 - samples for chemical or microbiological analysis.

Approximately 2,050 - samples of fresh produce for pesticide residue.

Contract USDA - pesticide data program, 1 of 9 states. Pesticide residues in fresh produce not a significant problem. Micro

quality more significant.

Contract USDA - custom slaughterhouse inspections.

Contracts of partnerships - FDA.

Domestic food samples. (Produce).

Imported food samples.

Market basket sampling - pesticides and Mycotoxin analysis.

Inspections for FDA.

Participate in foodborne illness investigations with Health Department Epidemiologists - CDC, FDA, USDA.

Handle tracebacks, foods implicated foodborne illness - particularly on produce. And One of the issues which needs to be addressed at this meeting: Mixed lots, limited records, no codes, short shelf life.

Investigate numerous product recalls and seizures each year. Adulterated and misbranded. Two of the largest this year involved hummus, histerin, ginsing drinks, alcohol.

It has become clear that agricultural practices can have a significant impact on the safety of our food supply. We need

to look at: Water quality and use; manure and sewage sludge; worker hygiene, sanitation and health; and transportation, etc.

It is clear that the good reputation of fresh fruits and vegetables is at stake.

Rare day that we don't get some inquiry from the news media regarding food safety and increasingly that inquiry pertains to fresh produce. Both familiar pathogens and emerging new pathogens are turning up in products previously considered to be safe.

You are all familiar with the recent fresh produce related problems:

Listeria monocytogenes - e.coli 0157H7 - lettuce;

Hepatitis A - strawberries;.

Cyclosprora - raspberries;.

Salmonella - melons, cut melons, now potentially hazardous food requiring refrigeration;.

E.coli 0157:H7, Salmonella and Cryptosporidium - fresh cider;.

Botulism - shredded cabbage, circus workers.

First state to develop reduced o2 packaging guidelines for fresh produce and other foods.

Scientists recognized potential botulism hazard associated with pillow pack type produce packages and other foods in reduced 0 degree packaging (salad mixes).

o2 reduced via vacuum, gas flushing (co2 and nitrogen) - natural respiration of produce - use o2 and replace with co2.

Improves shelf life by controlling spoilage aerobes and reducing oxidation.

Enhances environment for anaerobes such as clostridium, botulinium and listeria monocytogens, some of which will grow at refrigeration temperatures.

Signs of off condition usually relied on by consumers missing - odor, sliminess, discoloration.

Temperature control.

Minimum o2 level - gas permeable container - match respiration rate of produce - 21 percent - 1 percent.

Variable type produce - shredded

lettuce versus leaf.

Product temperature - higher rate of gas transfer through film.

Competing harmless microbes.

Many of these outbreaks seem to be related to the way these products were grown or harvested.

The development of Federal "Good Agricultural Practices" guidelines is certainly a welcome first step in addressing this problem.

We certainly support the use of grassroots meetings such as this to get the vital U.S. Producer input necessary to make these guidelines both relevant, user friendly and effective.

Welcome once again and I hope this is a productive meeting for you. Thank you.

MARK MCLELLAN: My name is Mark McLellan. I am director of the Cornell Institute of Food Science and chairman of the Department of Food Science & Technology here at the NYS agricultural Experimentation in Geneva.

We appreciate the opportunity to host this meeting in Geneva. The Geneva

Experiment Station is a division of the College of Agriculture and Life Sciences at Cornell University and has a long history of supporting research and outreach to the fruit and vegetable industries. As faculty members of the Cornell Institute of Food Science we have many key resources focusing on the issues of food safety. We have specialists in the areas of: Food spoilage, foodbourn human pathogens, outreach and communications, risk communication, bioanalytical detection methods, rapid screen methods as well as commodity based food safety specialists. Food safety is an increasingly important issue to consumer; they are awakening to the reality that the real risk in our food supply is foodbourn disease. Many, for the first time, understand the overwhelming data showing an almost nonexistent risk due to pesticide residue in our food supply and the very real scientific evidence identifying significant risks due to foodbourn disease. The facts are that foodbourn disease accounts for 9000 deaths per year, based on conservative estimates. The total dollars lost due to uncollected wages, lost productivity, and

related health care costs is well into billions of dollars per year. This is no small matter nor should the associated risks due to foodbourn disease be trivialized.

Having said this, it is important to remember that we are fortunate to have a food system in the US that, on a relative basis, is one of the very safety in the world. In particular our system of growing and retailing fresh and minimally processed fruit and vegetable products is the envy of the world. Still, the numbers confirm that we are experiencing a significant amount of foodbourn disease, a part of which is due to fresh fruits and vegetable. Epidemiology results also confirm that outbreaks attributed to fresh fruits and vegetables are increasing over the last few decades. We need to address this increase, but we need to use a common sense approach based on sound science.

After reading the draft FDA/USDA document carefully, I am convinced that it is on the right track. With some specific modifications, this document will help focus production agriculture and the associated fresh

and minimal processing industries on the key issues which impact the food safety of fresh produce.

Again let me welcome you today and invite you to visit the departments and facilities of the Geneva Experiment Station and in particular the department of Food Science and Technology.

BEVERLY KENT: I do have a list of some of the industry groups that would like to give presentations this afternoon. If anyone else or any industry group is interested, please see me during lunch and I can set up the presentation.

You each will be allocated about 15 minutes.

THOMAS GARDINE: Okay. Now some of the details on the guide to minimize microbial food safety for fresh fruits and vegetables. Two words to remember, guide and second, minimize. And I guess a third phrase, microbial food safety hazards. It is not all inclusive, it is focused. It is a guidance, it is not a regulation, and we realize the best we can do is minimize this hazard given the fact that God's earth and God's sky is not sterile earth and sky.

What you heard recently about outbreaks have raised concerns about the safety of foods, including fresh fruits and vegetables that are not processed to eliminate pathogens. What is the concern here is not a case where frequently the produce that we are talking about here is going to get a chance to be cooked either in a processing facility or in the consumer's home, this is something people eat as in the form that they take it home, from either the farm store or the supermarket. There is no additional protective steps, so all the protection has to come from care at the grower level.

As you heard, they are not subject to many of the steps designed to reduce, eliminate microbes that processed foods receive, because they are not processed foods. Therefore, it is your responsibility to take steps to reduce the risk of microbial contamination. It is particularly important for raw produce.

A guideline of your document, the draft guideline is right up here. Working together with USDA and some of the source documents that we have available from industry, we

focused on what are the areas that are controllable on the part of a grower that might be introducing microbial risks to fresh produce. We came up with four general areas that you will see exactly the way the draft guidance a set up: water, manure worker, field and facility sanitation, hygiene and transportation. Those are the key areas. That is what we are going to be talking about today.

Maybe you hadn't heard me say this already, but the guide is intended as guidance only, it is not a regulation. It does not compose mandatory requirements on industry. We urge growers to take a proactive role in minimizing food safety risks. And we know growers have been doing this.

As I said before, the industry was in front of the curve on this. The industry was already responding to a problem, why, because the industry saw it as a problem, not only public health wise, but in the terms of the acceptance, I would think, of your product with the American consumer.

The document is broad in scope, it

is intended to be applicable to most produce, so we are focusing on common elements in growing production and distribution design to reduce the risk of microbial contamination.

We realize that there are many, this is very important, we know there are many gaps in this science that lead to inserts in the degree of risk associated with particular farming practices. Hell, if any of us, if you as growers or we as regulators knew a specific thing that was doable that would solve this problem, it wouldn't be guidance, you would want to do it, and we would be telling you to do it, if it was not the sort of thing that would break the bank.

There are gaps in the science, and when there is uncertainty that is why in the document we point out where there is uncertainty in the science, and we will frequently say things like where feasible, where feasible. This a document that I'm quite confident both industry and the involved federal agency will want to revisit in five or six years or perhaps sooner as the science gets better, and maybe get the guidance in it better. It is intended to, for

identification, practical advice proper qualified when the science is unclear we try to make that clear in the document.

And as another part of the President's Initiative, USDA and FDA have been charged to accelerate research in an attempt to eliminate some of these gaps.

In some areas guidance may properly be more specific, such as when practices are subject to federal, state or local laws. This goes back to a comment we heard from the floor, there are local requirements, there may be state requirements, and in some cases when you start talking about packaging and processing, minimal processes, such as cutting and packaging, there are local, state and federal laws and regulations. Nothing in this guidance will say you could ignore current existing local, state or federal requirements. And as was pointed out, the FDA "good manufacturing practices" which would be very applicable to packing houses is contained in 21 code federal regulation part 1K.

Why we think the broad scope GAP G-A-P is worthwhile, is because we do believe that

there are common potential vectors for pathogens for all fresh produce, such as water and manure, which we will be talking about. We also realize there is an enormous range of difference in water available to specific growers and farm size in general, climatic and soil conditions and in the resources available to a grower. That is why I was very intrigued when someone at the Grand Rapids meeting referred to this as almost a self-assessment program that growers could use based on the knowledge and science contained in this document.

But we do realize that this is not a one-size-fits-all and we encourage growers to take it and apply it as best as feasible to their own operation and the limits that the reality of their operation imposes on them.

And we already covered the first part. Cultural practices will differ around the country, but the second bullet there is what you are here to help us answer. This is what we want your comments from the floor or in writing how can we best provide practical advice to growers that will move us to safer produce without being

unnecessarily costly to growers.

As I said, is it a real world document, we need your help to tell us what is practicable and what is doable in the real world. We need your comments as to whether the advice in this document is indeed worthwhile to publish.

Now, some of the specific statements in the document, once again, let me repeat the devil is in the details, and these slides are going to be a real quick overview. You have got to read the document and know exactly what is being said in there. We are not hiding anything in this set of slides, but details are tough to get across in the time available to us. So read the document before you decide you don't want to comment or you choose not to comment.

The first thing we want to talk about is water. Water is a concern in two aspects. Water can be an inherent source of microbial contamination, and water can be a mechanism, if improperly used, to spread localized contamination throughout a packing house or throughout your harvest. If you don't use the water properly. Here are a list of some of the

microbial pathogens that have been found in water.

The cause of water as a potential, as a source of pathogenic microorganisms, growers should carefully analyze practices involving water with the view to limiting the possibility of waterborne contamination getting to the produce. You should recognize as you try to look at your use of water, recognize the potential for water to contain pathogens and the water you use should be of sufficient quality for its intended use.

Now, the quality of the water you need to use will vary with the use and should be tailored to the needs of a particular operation. Let me repeat that. This guidance does not preempt any applicable federal, state or local regulations. Growers should consider when you are thinking about your water usage, identify and review the source or sources of water used on the farm and what sources of water you used for what different operations; a bit of advice that is contained in the document.

As the degree of water to produce contact increases, so does the need for better

quality water. Clearly, if the water is continuously, especially in the harvest, going to be placed directly on the crop, you have to be careful about the water quality. And your review may include determining whether, of course, the water is from an open well, canal, reservoir pond, stream, in determining which of those sources are appropriate for which needs of water in your growing operation.

Now, all right, once you do that, what are your options. Well, among the things talked about in the guidance, controls may include a number of options, such as delaying water use, in quality, improvements, that is kind of hard if you have only one water use and you have got to irrigate the crop. We realize that this is an option given to you if you have this option available.

Treating the water, alternative application methods that would avoid, to the extent possible, water to produce contact, and if you can afford it, maintain alternative water supplies. The feasibility of these or other controls will depend on the intended water use and

the needs and resources of a particular operation.

Look, we do realize that if you're a grower, and your sources of water is the local river and you have a cattle operation upstream from you, you don't have many, your options are limited. You do have some, perhaps you can treat the water, perhaps, if you could afford it, you may have alternative mechanisms for irrigating, depending on what the current water quality is. These are concepts or ideas contained in the document.

Irrigation water, many factors influence a growers' choice of irrigation system, economics, water availability. Characteristics and cultural requirements for a particular crop, depending on the crop grown. You may need to consider using a water delivery system, such a drip irrigation that minimizes direct water to produce contact for certain produce. You should be aware of the quality of the water used to mix and load pesticides sprays. You should consider this a potential source of pathogens. You heard Stacy, and I think Joe, speak a little bit about

the cyclosporic raspberry situation in Guatemala. Let me state from the beginning that the U.S. has not yet been involved and no vector has been identified.

But one of the things that people are considering is on some of the farms in order to protect their primary well water source from back flow or contamination from pesticides when they were doing their crop protection spray, they would go to the local river and get the water supply from there and quality from the river water was not quite as good as quality of well water, yet it was sprayed on the crop. Something that they are now thinking very closely about. You certainly should be.

Another area where water is used is wash water. Safe and sanitary water is recommended for use in washing produce in the field and in the packing environment. Wash water even with sanitizer may reduce, but not eliminate, pathogens on the surface of produce, especially in the pathogens that are internalized, as they can be with some crops. So just washing your crop is good, even sanitizer might limit your problem, but

it doesn't necessarily guarantee you are going to get rid of all the pathogens. If pathogens are not removed or inactivated, they can spread, so a significant quantity of produce is contaminated instead of sporadic items.

Let's go back to the first slide. Water is a concern in two ways; one, as an inherent source of pathogens and, secondly, if not used properly, if each of your operations are not designed with thought to eliminating hazards you might be taking a local, localized contamination and spreading through everything in a packing house or everything that you are harvesting that day. If you are using the same water to wash the contaminated and noncontaminated products. You have to think about this, it's one of the recommendations in the guidance.

The guidance will talk about the use of chlorine for wash water. I don't know that there is a need to go into that too much, something to consider, if it is an option for you.

Cooling operations. Any time water in any form can come in contact with a product, it

is a potential source of contamination. So water and ice used in cooling should be considered a potential source of contamination. There have been outbreaks of illnesses associated with cooling, and growers should be aware of the water source used to make ice and follow processes to reduce the risk of contamination during cooling.

Final point, bottom line, everything said in the guidance document about water, water is a vehicle for spreading localized contamination in addition to being a vehicle for adding contamination to the product if the water was contaminated from the beginning.

Next, talk a bit about manure and sewer sludge. Health officials and scientists agree that animal manure and human fecal matter represent a significant source of human pathogens. Most of the diseases we are talking about are speed through the fecal/oral route, and here's the fecal part of that route. The use of manure or municipal sewage sludge in the production of produce must be closely managed to limit the potential for pathogen contamination of produce. Growers must also be alerted to the

presence of human or animal fecal matter that may be unwittingly introduced into the product growing and handling environment. Just like water, you have got to think how you are going to be handling manure, municipal sewer sludge.

Properly treated manure or municipal sewer sludge can be an effective and safe fertilizer. Untreated or improperly treated manure or municipal sewer sludge may contain pathogens and can contaminate produce. We recognize that municipal sewage sludge is not widely used right now, but it has the potential of perhaps being widely used in the future. That is why we talk about it in the guidance document, but the guidance document does talk mainly about manure, one of the sources of fecal contamination that might get to your product.

Remember, the diseases, we are talking about fecal/oral route. One of them is the use of untreated or improperly treated manure, nearby composting treatments, runoff or seepage from nearby livestock or poultry operations, nearby municipal waste storage or disposal units and high concentrations of wildlife in growing

areas. Please remember the last one, I expect a lot of comments on that. We have been getting them about the ability of growers to control animals and what they might leave behind. Please think about that. We are anxious to hear your comments on this point.

Growers may need to develop and follow good agriculture processes for handling manure to reduce the potential or reducing microbial hazards to produce. Practices may include processes such as composting to reduce possible levels of pathogens in manure. If you are going to compost or use any of these processes, you have got to do them right, minimize, as feasible, direct or indirect manure to product contact, especially closer to harvest, such as water, the closer it gets to consumption. I guess this comes down to that farmer who has got one source of water and he's downstream from a cattle farm.

Here are just a list of the treatments to reduce pathogens. They are discussed in the document. What we talk about mainly in the document, however, is composting.

Composting refers to a managed process in which organic materials are digested aerobic or anaerobically by microbial action. Properly composted manure can be effective and safe fertilizers and/or soil amendments. Neither we, nor the USDA, nor your trade organization, have sufficient data to make specific time and temperature recommendations that would apply to all composting, depending on the source of manure you are using or other manure treatment operations. Good agriculture practices, based upon the best knowledge now available, may reduce the risk of microbial contamination from manure to fresh produce. What we are saying, if you are going to compost, speak to your extension agents get the best advice you can and try to control it as well as you can.

In the use of untreated manure, here's another point where we have been receiving a great deal of comments. Growers may reduce the risk on contamination from manure untreated, by maximizing the time between applications and harvest. Recommended minimums generally range from 40 to 60 days before harvest. Some

recommendations are 120 days or longer. This is something we have been receiving comments on. Please think about it. We would be very interested. It is one of the few areas where specific numbers are given in the guidance documents. We would be very interested in your comments on untreated manure.

Natural fertilizers, such as composted manure may need to be produced in a manner to reduce the likelihood of introducing microbial hazards. You have got to compost, as well you know how. Care should also be taken to prevent cross-contamination of produce from manure that is in the process of being composted or otherwise treated. You have to sort of find a way to enclose it. Don't put it on top of a hill when you are growing your produce downhill from it, where the untreated manure will be carried downstream in a rain. Likewise improper treatment or incompletely treated manure may be a source of contaminatin. Composting and other treatment may reduce, but might not eliminate pathogens in manure. Furthermore, it is unknown to what extent pathogens that survive treatment may regrow in the

composted product that is stored before use. One of the uncertainties in the document.

Therefore, to the extent feasible, the document recommends that some of the things we suggest for untreated manure, where possible, you may want to apply for treated manure such as maximizing the time between application and harvest. Good agriculture practices for handling manure may include securing the manure or compost to prevent cross-contamination from runoff, as I stated, to present cross-contamination from leaching into the soil and to prevent cross-contamination from wide spread.

Sanitation and hygiene, very important. Anytime you are dealing with food that people are going to eat, sanitation and hygiene, particularly of the workers, become critically important. You don't want to go into a restaurant where workers don't wash their hands. Let's remember if this produce is not going to be processed, the last person to touch it on the farm should also take the same care with it as with they would with their own personal hygiene, as you would expect any food establishment to use. Both

health and hygiene play a critical role in minimizing microbial contamination to fresh produce. Remember what we are talking about here, fecal/oral route of disease. Good hygienic practices by all workers are essential in the control of microbial hazards, fecal issue diseases, ill health with diarrhea, open lesions, and so forth, are sources of microbial contamination, and can be transmitted from the hand to the produce.

Personal health of the employees is very important. We suggest in the document that employees should be encouraged to report to a person in charge any information about their health or activities as they relate to diseases transmittable through food. Persons in charge should monitor the health of the employees. Individuals with diarrheal diseases should not work with fresh produce. All employees who are involved in the harvesting, packing and distribution of fresh produce should be trained in good hygiene practices.

One of the recommendations in the guidance advice we give is that the grower,

perhaps jointly in a region or through the state or local governments, should, or extension service, should consider establishing a training program for their workers as something as simple a personal hygiene programs should include a system to monitor and evaluate compliance. You know you are making progress with workers.

Washing hands after each absence from the workstations, using the bathroom, eating, and before coming to work is very important. You can't assume people know this. It is a given fact dirty hands have the potential to gather and spread germs on the surfaces they contact. Washing hands with soap and warm water helps stop the spread of germs. You may have to teach employees proper hand washing techniques and use of sanitation facilities, such as onsite latrines, and avoiding the elimination of waste outside of these facilities should be encouraged.

As for everything after the end, I don't know why we didn't say must be encouraged, but bear that in mind. In the field and a lot of what we are going to talk about from the field would also be applicable to the packing house.

Toilet facilities, the proximity and accessibility of facilities for harvest crews in all sectors of fresh produce products is important. Once again employees to packing house workers should have opportunity to use facilities when needed. This should help the incidence of workers relieving themselves elsewhere. Make sure that the location of toilet facilities is not a water source used in irrigation or in a location that is subject to potential runoff in heavy rains. Once again, try to avoid untreated fecal matter getting on your produce. Facilities should be provided to all employees. Provide adequate hand washing stations with water, including warm water, if possible, that is suitable for hand washing or drying. Toilet facilities should be well supplied with the usual supplies, and maintained in a sanitary condition and in good repair at all times.

Some examples of good operation to consider, which are in the guidance document, clean or service portable toilets away from the field if possible, dispose waste through a subsurface septic tank system, if possible, drain waste water away from the field or collect it in a

drainage tank to be correctively disposed of at a remote site. Once again, everything is designed to prevent untreated fecal matter from getting in contact with the product and to keep your worker's hands clean.

Harvesting precautions remove as much dirt and mud as possible from the produce while it is still in the field. Cartons are a source of spreading contamination, and damaged or muddy cartons should be paired, cleaned or discarded in an effort to reduce microbial contamination in fresh produce. You're going to have a load from the field, there is no sense adding to it by putting the produce in a dirty carton. Care is needed to insure that the produce packaged in the field is not contaminated in the process. Recommend that inspectors either wash their hands or wear clean disposable gloves while inspecting produce.

Equipment, the equipment you use in the field might be a source of spreading contamination to produce. So a person should be in charge of maintaining equipment sanitation and knowing what equipment should be used for what

operation. It may not be wise to have the same pieces of equipment that was moving manure just an hour ago now being used to pick up and move some of your cartons of produce. That would be a problem. You shouldn't do that. So a person should be in charge of maintaining equipment sanitation, keeping them as clean as possible. We realize in the field environment, in the middle of harvest, we know you're not going to be supervising your farm equipment, we are asking you to do what is feasible and possible, we are saying keep it as clean as practicable. In a facility, anything in a process, from harvest to processing that makes contact with produce, has the potential to contaminate it, that is the bottling line, anything that's going to touch the fruit, the vegetables you have got to think about it, is it the best you can practicably make it in terms of microbial safety. Poor sanitation in the packing house can increase the risk of contamination of produce and water supplies used with produce.

Once again, to get back to this other gentleman's comment, there is a lot of advice in the current "Good Manufacturing

Practice" issued by the Food and Drug Administration, Title 21 of the code of Federal Regulation 110.20 to 110.93 is a good resource. Equipment such as knives, saw blades, et cetera, should be inspected for defects on a regular basis and replaced as needed. Personnel should not use equipment that has contact with produce for carrying other materials such as tools, fuels, lunches, et cetera. Keep the packing house and cooling facilities clean and sanitary as possible.

Pest control, hey, you are in an enclosed packing house, you have got to worry about pests. We would expect you to do the same in that environment as you would with any other food processing facility, to exclude pests from the facility. And one of the things here we do recommend is the use of a pesticide control log, if it is an enclosed packing house. One of the few places where a record keeping suggestion is made anywhere in the document, by the way.

Final route for contaminating product may be the transportation. Anytime you handle product before it gets to the consumer may

be a problem. Contamination of produce may occur due to improper practices during handling, loading, unloading and transportation operations. Wherever produce is transported the sanitary condition should be evaluated, especially between links in the distribution chain. This means getting it from farm to packing house, from packing house to market. Cross-contamination, one of the things you should be concerned about is cross-contamination from other foods and nonfood sources, and contaminated surfaces may occur during transport. Segregate fresh produce from other food and nonfoods in order to prevent contamination of the produce. Try to insure that trucks or other carriers' sanitation requirements are met before loading produce. What are we saying there? We are saying don't put your produce in a dirty truck. Inspect the truck before you use them, before you put your product on them. You should keep an open communication along the transportation chain regarding food safety risks and the need for adequate safety steps. You probably should be talking to your truckers, if you don't own the truck, make sure

that people know they are dealing with food, and it is not just hauling freight.

Onto the guidance document. We have attached a section that has nothing to do with control of microbial, minimizing the risk of microbial pathogens with produce. We attached a document, a section called, I believe we changed it since these slides were prepared, positive lot identification. Getting back to Joe's point, it's difficult sometimes when responding to an illness, report that may involve fresh produce to track the produce to its source.

This document is encouraging everyone along the chain of distribution to think about ways to do this. We recommend it for a number of reasons. Fresh produce will never be free of contamination, I said this often enough. We realize it is a nonsterile world. We are here to work with the grower to do the best job we. It is never going to be a sterile environment. Tracebacks don't prevent the hazard. It can limit the scope of hazards. If the traceback, for example, if some sort of coding system exists to enable health officials to trace a problem back to

a farm or particular shipper or perhaps a field on a farm, we do not have to put an advisory out to the public and say, well, strawberries are a problem, but we have no idea where they are grown, which automatically makes all strawberries a problem.

The better we can focus, the less risk and less impact it has. It will limit the population at risk if we can focus on the problem, we will know where this product is distributed. And as public health officials, we can do a better job in removing the product and to advise the consumer what to be concerned about. It can lead to the specific company or source or growing field to the problem, so we can correct the problem. It will lessen the economic burden on operators not responsible.

But we realize that traceback, positive lot identification is something that will vary, the industry's ability, depending how your product is marketed, your ability to do this will vary from crop to crop; but it would be real nice if you could do as much as you can. We are not saying that you have to put a sticker on each darn

apple or each darn orange, it would be nice if you could. But we realize that financially might be totally impractical. Let's identify your shipping crates. Maybe we should think about making sure that that is done, that the farmer and everything is properly identified at least on the shipping crates and perhaps further if we can.

Traces, a good system for positive lot identification would minimize the unnecessary expenditures of public health resources as we try to run around and find who is responsible for the problem. Let's remember what I said at the beginning, fruits and vegetables are good for people. We believe they are safe. We want to keep them safe. We want to keep people eating them. One of the reasons for this initiative is to insure we are all doing all we can to maintain public acceptance of this product. We do not want fresh produce to be subject to the crisis of a weak environment that might make the American people question whether it is really good for them to be eating this product, because, darn, it is good for them. Operators should examine current company procedures to trace from farm to

receiver. Operators should develop procedures and technologies to improve traceback from the receiver to the farm. Once again, this is not simply the grower, everyone along the distribution chain we would encourage to think about this. And to be effective, traceback should have as much detail as possible. If we had our wish we would be able to look at a traceback system and know the date of harvest, the farm identification and chain of custody from farm to receiver. It would be delightful, but may not be totally practicable in all cases.

That is the end of the slide presentation. One other story that I gave at Grand Rapids, I would like to repeat here, because it deals with what happens when there is an illness associated with produce and helps show, I think, the goal and traceback. My normal job is with, I'm the director of the division of field operations in our field organization. My job is to not only give customer service to the FDA field office that are trying to handle imports, but to give customer service to imports that have problems with us, and want to learn the rules. My

people and I are very serious in returning phone calls as quickly as we can. One, as we all do, I was having a bad day, there were a number of crises going around. I get a call at nine in the morning, I don't get a chance to return it until very late in the day. In speaking to the man; Sir, I am sorry I got your call earlier today, I am sorry I am so late reporting back to you, it has been a very busy day. I'm having a bad week. This was during the time of one of the incidents I think Stacy talked about, the hepatitis in fresh strawberries that were, they were processed stawberries, processed in the U.S. went through a food service operation in the States. The strawberries were grown in Mexico. When I said I was having a bad day, there was silence on the other side of line. He told me I'm one of the major importers of strawberries in Mexico. He said you think you're having a bad day. He had nothing to do with supplying the strawberries to this processing facility in California. He claimed that his farms where he purchased from, some of which he actually controlled and owned, were nowhere near the areas where the strawberries

that may or may not have been the cause of this incident were grown. But nonetheless, I'm sure with a bit of exaggeration he claimed he was having trouble giving his product away that week. I am sure it landed beyond that week.

So think about that when you think about the effort that might be needed on an industry-wide basis to traceback, and the effort that might be needed to work with state and federal trade organizations to make President's Initiative as effect as we all can.

With that, I think we open it up to once again to Beverly.

BEVERLY KENT: Please, since we are, there is a transcriber, come to the mic and introduce yourself.

DAN DONAHUE: My name is Dan Donahue with New York State Board of Horticulture Association.

Tom, I would like to refer back to some of the prior discussion. You refer to the identification process, to develop a strategy, for specific commodity groups, we began a further discussion to add more to that list. We were

wondering about the viability of that strategy.

THOMAS GARDINE: Do you know when we issue a federal registered document asking for comments, you open yourself up to any advice people want to give you. And certainly should you want to comment on the viability of that strategy, it would be totally appropriate to do so at that time.

DAN DONAHUE: Thank you.

THOMAS GARDINE: Or at this time if you want to make your comments now.

DAN DONAHUE: I will make them later.

UNIDENTIFIED SPEAKER: Are you taking comments across the board or going to go by section?

THOMAS GARDINE: Please, anything right now, comments across the board. Once, again, please if you want to make your comments about what we said, you do have to go to a microphone.

BILL POOL: I'm a corporate manager for food safety regulations. My comment is related to traceback. Certainly that's a hot

topic in the food business, being able to go back to the source, trace the product from the consumer right back to where it is produced. I think it's an honorable intention. When it gets down to reality, it is very, very difficult, unless it is in a can or carton or some other container or unless the retail industry and the produce industry significantly change or the method of receiving the product or displaying the product. We don't want to eliminate customers from our stores. It is all well if we go back and want to know where the apples were grown, unless it is packaged or it is displayed on the vending machine, unless every customer that enters a retail food store in the United States wears gloves, tracebacks are not going to give you your answer.

Let's assume I'm a shopper with hepatitis A, and I walk in and touch a product, you come by and buy that product and three days later feed it to someone in your family. 12 days later they are experiencing symptoms of hepatitis. We can traceback this product, it came from grower X. It wasn't grower X, or grower X's

employees or handlers or processors or transporters, it was me, the customer, 3,000 miles away from where the product was produced that was the cause of the illness.

I think you have to be very careful how you try to traceback or link the process. You are liable to put a tremendous negative burden on the grower that has absolutely nothing to do with it.

THOMAS GARDINE: Let me just respond to that. Please stay at the microphone for a moment. First of all, we recognize that, I don't think there is a public health official in this room who would automatically jump to the assumption that the problem occurred on the farm. But do you have any suggestions or thoughts about better ways to address this, other than the fact that it is going to be hard. We all recognize it is going to be hard.

BILL POOL: Again, unless you limit the bulk displays of produce so everything is packaged in some kind of container that can't be penetrated or entered in any way, unless the consumer final gets it home, you're going to, you

are going to look at a huge, huge shift in the retail produce. We took a long time to get away from packaged produce. It is a real positive, from a customer perspective, to see product out of the package or can. It would be a huge shift in consume behavior or retail behavior. I certainly don't disagree in what we are trying to accomplish.

THOMAS GARDINE: Please remember, I also recognize that there is some produce where this is more practicable to do that than the others. One of the things we were talking about on this is bins of displays for apples and other type of fruit like that. What we would encourage people to think about is maintaining good records as far into the distribution chain as is possible. Not that we as public health officials would automatically assume that the grower was the cause of the problem, but at least we can focus on a problem and go to the grower and take a look and see if we could eliminate them immediately. But we are just saying think about it. We know it is not practicable for all produce, but please, try to do the best you can. We think that is good for

industry, even the retail environment, and good for us. We do understand the way produce is being displayed now, it is not totally practical to get down to the end point in all produce.

BILL POOL: Which again that would be questionable what you are trying to do even. Getting back to bins of apple, common retailers don't segregate apples from growers in bin one, to apples in growers of bin two. You may have four suppliers in a specific bin.

THOMAS GARDINE: Yes, there may be some value in knowing which four growers may have been in the bin when the illness occurred. Even that information would help state people, for example, in trying to evaluate the extent of the problem.

BILL POOL: I think you have to look at cost benefit ratio, what is the cost, and what you actually get out of the process.

THOMAS GARDINE: Understood. Let me tell you your comments were very similar to things we heard in Grand Rapids.

PAT TAYLOR: I have a comment and reaction. I'm a farmer, and I just wonder, are

these microbial hazards washable on the produce? And if so, doesn't the consumer have a responsibility to also wash this product when he gets home?

THOMAS GARDINE: Yes, and this GAP for growers is only one aspect of what is being done. We are also developing, through our retail food code, guidance for restaurants where the food is handled. And we will also be developing a consumer education program. But what we are saying here, we believe the grower does have a responsibility to do what they can to minimize the risk, knowing that it's unlikely they can totally eliminate it, and there are indeed responsibilities all along the food distribution chain.

PAT TAYLOR: I agree with that. I just also like the idea of the unpackaged produce, I hope we don't have to go to packaging.

BEVERLY KENT: When the FDA takes on an initiative like this, we also have a public affair specialist in out district office who spends a lot of time educating consumers. In one of the packages, the FDA blue folder, you will

find some of the consumer material we have available. We make an attempt to educate the consumer as well.

RANDY WORBO: My name is Randy Worbo from Cornell University. You specify the need for adequate sanitation, hygiene for workers. You also stress the need for toilets and positioning of toilets in the field to prevent untreated waste from getting into the crops. Wouldn't it be better to place the guidance, recommendation on the use of untreated waste, period? Because it is a transmission of human, commonly from animals and humans that get in the system because workers are going to be going in the fields. Sure, it is not going to be on top of the produce. The workers are going to come in direct contact. And what happens to the sanitation and hygiene with the workers that come back from the toilet and do not wash their hands and they are picking the produce?

THOMAS GARDINE: I think rather than comment on that, I will be honest with you, I am not prepared to.

Joyce, do you want to try to talk to

that? We now have it down as a comment and something we will be considering. This is a public town hall meeting.

RANDY WORBO: It is just a question. Now as for 40 to 60 days as being adequate, I'm not familiar with any research or data that is available on the survival of fecal pathogens in untreated manure when they are spread on the crops. 40 to 60 days prior to harvest may not be adequate to eliminate the pathogens. When the workers go into the field, it is going to be on their shoes, on their hands, and there is your transmission right onto the product, especially for unprocessed fruits and vegetables such as lettuce, radishes, anything like that is a major concern.

THOMAS GARDINE: I thank you for a comment.

MARK MCLELLAN: A follow-up, Mark McLellan, I'm director at Cornell Institute of Food Science. I just want to start by certainly applauding you in this document. I'm very impressed with the scope and depth of what has gone into the printing here. In particular, I'm

pleased to see that we are dealing with health issues in the production of fresh produce. It is not something they expect to see microbial contamination in. It is something to address.

On the issue of traceback, I'm impressed with the thinking there. I agree with Tom, there is a lot of challenges there in terms of issues of retail handling. At the same time, if you have a traceability, even on bulk lot, it would allow us to at least explore the idea of potential contamination at the farm or to eliminate that as a source of concern. And I think there is some benefit to that.

And then picking up off Dr. Worbo's comment about untreated manure, I think this is a very serious concern. It is one place in these guidelines where we raise a flag, and that is a fact that we do have a serious potential source for human pathogens in untreated manure, and the fact that we are dealing with a contamination problem, it makes no sense to allow untreated manure to be used in the same area as fresh fruits and vegetables, until such time as we have scientific proof that shows effective treatment or

effect procedure of laying down, maybe it is 200 days, maybe it is 120 days. Until that is shown, it simply should not be allowed.

STACY ZAWELL: Stacy Zawell, with United Fresh Fruit and Vegetable Association. I would like to react to both previous comments on compost and traceback, or not composting actually, I guess there is a number of points that make that a very difficult area to deal with in terms of food safety. We know that, in fact, pathogens do exist in manure, and so the use of treated and untreated manure must be done very, very carefully.

The point is, if in fact we decide then we should not use untreated manure, we should compost, we do not know what sufficient composting is. If we don't know what sufficient composting is, the risk is that you don't get rid of it, because it gets a heat treatment. What we need to do is make sure what type of manure you are using and you are using it very properly. Because it may be, in fact, that it is common practice in some instances to use uncomposted manure, there may be absolutely no definitive risks of that. We

can understand for public health, when you apply untreated manure to certain orchards well before harvest, and it gets worked into the ground and before crops are even planted, this happens, so the risk associated with that is not well understood. And as well, intuitively many growers can go ahead and make the decision that untreated manure may be riskier than they want to get involved with. That intuition should not be the basis of policy. The intuition should be up to the operator itself. Policy should be placed on sound science not intuition.

JOSEPH FERRARA: Joe Ferrara, Agriculture Markets, New York State Agriculture. Just a point of interest. We have done extensive sampling this year of cider in cases where there is e. coli present in association with apple drops.

STACY ZAWELL: I certainly understand that when we are talking about apples, we are talking apples and apple cider, those are two completely different things, using drops for apple cider production is different from picking the apples for home market.

It's something, you know, Tom, as the industry-wide guidance, we helped to develop with 20 other organizations, we addressed the issue of traceback because it is such a very, very difficult issue to deal with. But the industry recognized for many, many reasons they benefit by having effective traceback systems, because then you get to be, rather than being a commodity wide effort, you can actually focus on the grower, you can focus efforts on food safety on a particular spot. There can be a lot of economic impact implicating an entire commodity. Rather than doing that, what Bill Pool was saying, and you emphasized in your statements, it would be very, very important to have some very scientific information.

I've done a lot of going around terminal markets, a lot of like Bill was saying, we have this tradition of having open produce environments. Produce departments in the grocery store is the number one reason why people pick their grocery store. It is very tactive, it is very beautiful. We need to preserve that. I think it is very difficult, one of the

difficulties is I noticed in talking to a lot of people who run terminal markets, I look at their purchase orders, I say show me something that comes in, show me the information. It says 50 eggplants, that is what it says, there is no other information on there. And, in fact, common practice is, if they, instead of getting 50 eggplants, they get 45 eggplants, in all likelihood, they call up to their other neighbor in the terminal market, I need five to fill this order for the supermarket. It is a very, very complicated process.

My point is simply that it is easiest for the grower to put something on at the source, that means nothing if we don't have communication along the pathway. We are working very, very closely with our partners, our other associations who represent the food service and retail environment to achieve or, you know, focus on getting a little bit better in this process. It's a very, very long road for us to take.

THOMAS GARDINE: I would comment, Stacy, nothing you said contradicted anything we know about the process. To make this work we need

communication at every step along the line of the distribution chain in order for positive lot identification to be effective in limiting the specific problem.

MARVIN PRITTS: Marvin Pritts, Cornell University. The issue of manure management is a difficult one. It has implications beyond food safety. I think we need to be aware of those when they start to address this issue, for example, manure management is probably one of biggest environment issues we face. Livestock farmers in particular tend to concentrate the manure and not have any way to dispose of it. The good way to dispose of it is to use it back on their crops. If we start to say you can't use manure in agriculture because of food safety, it is going to lead to perhaps other environment issues. It might be greater than the risks involved with the food safety.

And specifically there is the issue of the organic farmer who relies on manure for their fertilizer. There is a significant number of organic growers in this area alone who have certain guidelines and regulations put in place in

the manure management. It would be a very, very great hardship on them. We need to keep that in mind when we look at the progression of these guidelines.

THOMAS GARDINE: Thank you.

ANU RANGARAJAN: Just a follow-up. My name is Anu Rangarajan. I'm with Cornell. Something that concerns me, and I know several other growers, is irrigation water. Many of these growers are pulling from surface water, they are within watersheds. When we are addressing those produce growers in the state, I think we miss part of the problem. And I think we need to expand this effort to include livestock industries, because, how they are handling manners. In effect, to irrigate the grower might have to be pulling from the surface water. They have little control of that water because they are downstream. I think that is one of the challenges with traceback efforts. Testing of irrigation water isn't easy, it is expensive. At what point during the season do we test irrigation water? These are missing links.

To impose these types of comments

and suggestions to growers, we don't have the backup to be making wise type testing recommendations. And informally we have done testing over time of irrigation water in a particular watershed. And picking at different points along the stream we detected Salmonella in one area, and we didn't detect in the other. We don't have a sense of what is a real risk to the growers that would be applying this as surface area water in their crop.

THOMAS GARDINE: Thank you very much.

Beverly has indicated to me that she wanted to break at 11:30 for lunch. I'm going to take one more question and then please hold your questions for the afternoon when it is going to be wide open for everyone, and our panel will be back in front of the room.

JODY SMITH: Jody Smith, Environment Solutions. We have been doing some preliminary testing with ozonated water with local producers in the Buffalo area. I was wondering if you recognize ozonated water as effective cleaning process? Do you recognize ozonated water as an

alternative cleaning solution?

THOMAS GARDINE: I am not the person to answer that question. If you wish, if you have a business card, you can give it to me and we will give you a formal response on that.

BEVERLY KENT: Okay. We will go ahead and break. It is 11:45. So if you could return at 12:45. We also have 3x5 cards available for anyone who would like to submit a question.

(LUNCH RECESS WAS TAKEN)

BEVERLY KENT: Just a few reminders. There is a sign-in sheet out at the registration desk. There is a sign-in sheet out where Tom is sitting. If you could please fill that in, it is a great help to the transcriber so that you don't have to spell your name and indicate your affiliation. So please take the time to do that. And when you do go to the mic for questions, if you are giving a presentation this afternoon, please speak clearly and slowly, not really slowly, not really fast, and also get practically right up on the microphone like I am. The microphones are turned up as loud as they can be turned up. If you can't hear, please raise

your hand and we will let the speaker know.

Now our next speaker today is from USDA, he's Rick Gomez. He'll talk a little bit about the role of the USDA.

RICK GOMEZ: The role of the USDA -- by the way, I am Rick Gomez. My agency, the agency I work for is a cooperative state research education service which is the federal partner of the Federal Department of Agriculture. We are now in the extension service throughout the United States. Let me tell you about what I think the role of the USDA is and will be for a long time.

We at USDA, through our various systems, agencies, partners, touch each and every county within this country. We also are involved in the territories and through the foreign agriculture services, in foreign countries as well in the field of agriculture, not only within the U.S., but also outside of the U.S. So we have a tremendous opportunity, and also a very heavy responsibility to make sure that this fresh fruit and vegetable initiative works. We also can be and will be and will continue to be providers of science so that this initiative can work. We and

the FDA are full partners in this. It may not seem at this point, but we are full partners.

There are several agencies that I want to mention and that doesn't mean that the other ones are not important within USDA as far as this initiative is concerned. But there are some that are critical. The ones that are critical are the Foreign Agriculture Service, through the International Cooperation and Development Group. And they are the outreach and educational part of the Foreign Agricultural Service. And many of you, or some of you, if you are from Cornell, may have been involved in going and doing some educational programs or assisting in their research programs in other countries. This is through the Office of International Cooperation and Development. So we do have a mechanism to carry out educational programs in other countries through that, as well as through USA ID Agency for International Development. But we work very closely with those two.

The other one, other agency that is very much involved now in protecting American agriculture is Animal Plant Health Inspection

Service, that will also continue to be involved and will be more involved as this initiative progresses. They are the check points at the borders, so they will be helping FDA in their efforts as we progress in going to the international realm with this initiative.

Another agency that is very important and it's also like ours, like the one I belong to, reaches down to the community level and that is the Natural Resources and Conservation Service, which is basically the new name for the Soil Conservation Service. But they wanted a broader aspect in the environment, so Natural Resources and Conservation Service. Through their water and soil conservation districts, they touch the farmer at that point. As a matter of fact, they are the agency that does approve farm management plans if they are involved in an USDA farm program. So they have a way to reach the producer at the local level.

My agency is made up of the Agriculture Extension Service and the Agriculture Experiment Space, and those two groups, and in some cases one individual belongs to both, are

very critical. We can, through the extension system, identify some of the gaps that are existing, bring it back to research, research can do their work on them, and as extension people we can then transmit that knowledge through educational programs or through technology transfer, either way, to the producer.

So that we do have an excellent mechanism through which we can follow-up with that. But it doesn't stop there. If it stopped there, this initiative would be dead in the water. What we need to do is continue. And we have been working and will continue to work with industry, the agriculture industry. We must be partners. I think Tom and Stacy mentioned this before, we must be partners for this to work. It will not work unless we work together and make some commitments.

It is a pleasure to see many of you from industry, from the experiment station, and from extension here. We need to work together. Let me give you an example of a program that I think we might be able to use as a model or as part of a model to base this initiative. And that

is one that I think has been very, very successful in the United States. It has been very successful outside of the United States as we carry it out. It is an integrated pest management program. It is a system that, it is a program that is based on science. It is a program that is voluntary. And those two facets are, I think, critical so that this initiative can proceed and be successful. It must be based on, since it must be voluntary and practical. IPM is, and IPM not only is, has been a program that has in effect improved the quality of our food supply, but also improved the economic viability of the farmer. We hope that this initiative can do both. IPM has also generated or engendered a new industry, or nurtured an industry that was fairly weak, and that is agriculture consultants. That is a viable industry at this point and will continue to be. Maybe those consultants will also take on responsibilities in the food safety issue as we proceed. That is a very successful program. As a matter of fact it has become a marketing program as well. We now see produce at the grocery store, labeled produce under IPM or IPM product, and that is what this

initiative may become later on.

By the way, we are almost at the point where 70 to 75 percent of all U.S. grown crops are under IPM. And to me that is a big step. We hope and will have by the year 2000, 95 percent of all U.S. crops grown will be grown under IPM programs.

So I think USDA has not only a partnership role with FDA, but also we must be partners with industry. We reach people down to the local level, we must start the partnership there. Extension and the experiment station systems must tell us what is needed out there in agriculture. We must, if it is researchable do it, and base our programs, therefore, on sound science. If it is not based on sound science it will not work. And I think that point has been made before.

So, our role here in this conference is minimal at this point. But we, and hopefully all of you through USDA, these hearings, FDA, the experiment station system, the extension system, will tell us what is really needed down to the producer level. We will get there, believe us.

It may take a few years, couple, three, four years, but we will get there. And it may not be for all 338, that is the number we have heard, of different vegetable and food crops grown in the U.S. or foreign countries, but we will get there. And hopefully we can all do it together in a practical way which does not place an economic burden on the producer, yet protects us the consumers. I know you producers are also consumers, so it is for your benefit as well, and you know it. We know it also. Thank you.

BEVERLY KENT: Thank you, Rick. We will go ahead and begin our industry group presentation. And to start the presentation we have Stacy Zawell from the United Fresh Fruit and Vegetable Association.

STACY ZAWELL: Thanks, Beverly. I would just like to again start my comments out by letting you know that United is an international trade association that represents over 1,100 growers, shippers, wholesalers and brokers of produce, and we also represent industry suppliers. And I am going keep my comments to a minimum, because I've got a number of people from

the industry together to talk and give you their reaction to the guidance.

I would like to preface my previous comments and these comments by stating that our involvement is to insure practicality and reasonableness through this process. It is not to fight the process and, in fact, United has led the effort to develop an industry-wide guidance document on food safety with 20 other produce associations representing many different regions and many different commodities to demonstrate to you that, in fact, we are very engaged in this issue. We want to work very closely with you, our members and others beyond that to insure and increase the awareness of this issue and make sure the response of food safety in their own operations are very focused.

What we want to do is going to be difficult. I think with this general guidance too, one of the things we struggle with is how you take guidance that has to stop at science and implement and help an operator use this guidance. That's one of our next efforts, to develop these tools and also work with you guys to make sure

that these efforts are effective and that we can reach the actual user, the end user. But, well, this guidance is going to be very, very valuable, in all of these efforts, whether it is the efforts we have done, whether it is the efforts the Western Growers Association and International Fresh Cut Produce Association have done and regional commodity groups such as California Strawberry Commission. Each one of those programs have been done by the industry and for the industry, and, therefore, very practical, and I urge you to make sure this is all done in that way, because if it is not, I'm afraid, my fear is that it is going to lack credibility, and people that need to use it and need to have their awareness increased, are not going to benefit, because it is going to have silly recommendations, if you will, such as covering a reservoir. I think it is important that this guidance is practical, reasonable and makes sense.

With that, I just want to state that as we have done through this process, United has taken, made the effort to develop a coordinated response by the industry at each one of these

meetings in order to capitalize on that and contribute to make this effective for you guys as well as for the industry.

So, Beverly, if you want to go through a list of the number of people we have invited to speak, go ahead, and that will end my comments.

BEVERLY KENT: The next person for the industry presentation would be Dan Donahue from Stone Fruit and Strawberries, New York State Horticulture Association. Thanks.

DAN DONAHUE: Thank you, Beverly. Thank you for the opportunity to speak today and give testimony on behalf of the membership of New York State Horticulture Association. For those of you not familiar with us, our organization, it is comprised of various packers, shippers, growers, people interested in the commercial fruit industry in New York State. Our membership comprises really all New York State, plus out of state people as well.

Before I begin with my specific comments, I want to make it clear that our members are quite concerned about this issue. We are very

concerned about the safety of the food we grow. We believe we have a very safe food supply, but we want to work towards making it even safer. We consider this a very, very valuable process, a very important process.

Secondly, we understand that this is the beginning of this effort, that this is a draft document and we are very interested in commenting on it and contributing to its progress, but we are at the beginning of a process and we are not at the end of it. If you keep my comments with that perspective, I would like to eventually get to a few comments.

Stone fruit and strawberries perhaps contrast packing practices with New York even with the rest of the country. First, the guidance development process, and I know you have all heard this before, but I'm going to say it again, referring to the panel that we need more time, the industry needs more than a week to respond to an effort like this. It is a 50 plus page document, very involved, and as been said before, the devil is in the details. It takes time for us to go through this and to pick it apart.

So as we proceed with this initiative and the future initiatives that take some mercy on the industry and our response time and allows us more time to really do an appropriate job in dealing with this.

We also think in the development process that the folks at the government level really need to understand agriculture around the country and the diversity of agriculture around the country; that could be farm visits to packing houses, tours of the industry, certainly our organization will be more than pleased to facilitate those efforts. We will cooperate and do everything we can to maximize your education and the concerns and the positive aspects of our industry. We also think that the USDA really needs to have a very visible role, particularly at the farm and packing house level.

With this effort it is the USDA that is close to the agriculture industry, and has a historic understanding of how we work, what our problems are, what our needs are. We really prefer to see USDA people come onto the farm or into the packing house, rather than, honestly, FDA

people at this point, until the point the FDA are experts in agriculture. We certainly will be pleased to see them become experts. We all have a wide range of responsibilities, certainly the USDA is really already at that point.

Existing regulations, let's make sure we consider existing regulations. And an example of this will be the field sanitation regulation that we live under in agriculture in the OSHA regulations. We don't want separate regulations from this group. If the OSHA regulations are not sufficient, then let's change OSHA regulations, let's not put a second set of regulations, i.e. guidlines to this.

Speaking to the point of regulation, I heard clearly Tom's comments very clearly that these are guidances, this is not regulations. We understand this. However, we also know how things can work out in the industry. And our concerns are as soon as the federal government comes out with a guidance with recommendations on paper, that they will, in a de facto sense, become regulations; as certain parts of the industry, perhaps the buyers adopt them and specify them.

We are not necessarily against this, we just want that to be taken into consideration when we develop these guidelines. We need as much rigor in terms of the science behind guidelines as we do with regulations. We cannot lapse in our desire to have a good science.

Sound scientific background is what we are asking, because several things could happen. One, again the industry could develop these, growers, packers, shippers will have to abide by them, because of the market. Or, two, we have a set of guidelines on the books and as soon as the next scare comes along, whether it is justified or not, congress could direct that they become regulation very quickly. We want to be careful that we are well prepared for that contingency.

I mentioned science, it must be based on science and I will be frank with you. The current document does not have much science in it. As an agency, we have started a process where we are working towards a final document that needs to have more science in it. We can't afford a shotgun approach to this issue. It is very

important where we put our resources, be it grower resources, packing, shipping resources, government resources, to try to pinpoint areas of contamination or greatest threat of contamination. We want to make sure those resources are sufficiently used. This is something we need to keep in mind, everything must be based on science, research. We think we have an unbiased viewpoint. We are sitting in the middle of probably the great agriculture research institution in the country, of course that is an unbiased view. In any case, money needs to come here as well as other equally good research institutions to start answering these questions. We need to start working on it and the regulation of guidance, and any future activity must be based on that science.

At this point in time we wish not to see commodity specific guidance, of course this goes back to a question I asked of the panel earlier. We think a general approach is more warranted at this point, considering the level of scientific knowledge we have. We are concerned as soon as we point a finger at berries,

strawberries, apples, or at a specific vegetable, that sales are going to drop in that category for no justification. At this point the science is not good enough. We feel going to commodity specific is not prudent. We would like to see that backed off to a general guidance and let the industry and research work from that point.

Something to consider here in the northeast is the prevalence of small farm markets or farm stands. The fact that the food system in the northeast is a very important component. We are not all in grocery stores, big wholesalers, large distribution centers. When it comes to issues like control of contaminants, that raises back previous issues. This is a very important consideration to take into account.

Just some specific comments about stone fruits and strawberries in New York. In terms of manure use, of course stone fruits are tree fruits. Manure is often used preplanted. Oftentimes a crop is not taken off a tree until a number of years after it is planned. Manure is used in berries, in some instances as a fertilizer.

Also you have to remember agriculture in the northeast is heavily dairy oriented. It is quite likely your fruit farm is going to be contiguous to a farm, dairy operation. It is necessary to take that into account, again with research as to how susceptible, say, my fruit farm is if it is next to a dairy farm, what steps I need to take, what they are going to cost me, what is the real threat, what science says the real threat is, is it in the form of irrigation. Definitely strawberries are grown differently here in the northeast than they are in Florida or California. We do not have a plastic culture in New York. Overhead irrigation is almost always necessary. It is not for irrigation in terms of water status, it is for fruit quality, it is really key to the industry.

This is a contrast to some other growing regions of the country. We take this into consideration. Irrigation in tree fruits, on the other hand, is some form a trickle irrigation, the water source can be municipal wells, streams, lakes, ponds, swamps; you name it, it is there. And this all needs to be taken into account.

Crop protection, again the water source for crop protection sprays are all of those sources except swamps. Again the water spray is not usually tested for bacteria. It often is tested for pH and that is it. The question comes who is responsible for the testing. A lot of reliance on the document is placed on the grower to test, and again this is quite a burden to the grower. And we need to look at, perhaps, the government to be, or water districts or other municipal entities be looking at this. If you are drawing water out of a stream, what happens if there is something going on upstream? Is it the grower's responsibility to deal with that? That seems to be a difficult position for the grower to be in.

Stone fruit and strawberries, generally, in New York are dry packed. The stone fruit may be run over sizing equipment of various level of technology, often handpack, there is very little water involved. In terms of handling stone fruits, there is no hydrocooling that is going on in the northest. Generally stone fruit producers are small operations doing some wholesale work,

but not supplying the volume out of shrink zipper that you would see in California, for instance, or Florida.

So, again, something to take into mind as we develop this, again, we can't be so specific that guidance tailored to the huge California industry may well not be a fact almost guaranteed not be appropriate to the New York industry. This is something that needs to be kept in mind.

Worker hygiene, again we have OSHA regulations along these lines. There is no point in having guidance that is either opposed to or somehow different from the OSHA regulations. If you're familiar with the regulator situation in New York, it is mind-boggling the number of regulatory agencies with access to the farm, with similar responsibilities, similar tests. You can get visits on a single day from three different groups to visit your labor camp all looking for different things, all really looking for the same thing when it comes down to it, with a slightly different twist.

Again with field sanitation, there

is really practical concerns with the health of your workers, how do you address that, how do you address the privacy issues. Generally folks that are working on the farm, particularly in a piecework, are there to work. If you ask them how are you feeling today, are you sick, maybe you get an honest answer. You will get it once, because they will realize they are going home and in that case they are not making any money. They are going home, which means that is it; everybody will be really healthy. The rest of the sentence whether they are or not is something to keep in mind.

In terms of traceback issues, again, it's very positive that we work towards a traceback system. Again, keep in mind, often the nature of the, a lot of small farming in the northeast in the New York State, and a lot of farm markets and the difficulties that could be presented with those situations. We need to take them into account.

With that, I will close my comments. Again I really appreciate the opportunity to have a say for my organization and

we look forward to working with you in the future.

THOMAS GARDINE: Could I ask you to stay up a moment. I would like to get some clarification. And, of course, given in one case a bit of rebuttal.

Number one, your concern about overlap with the OSHA regulation, I think we would want to stress that the OSHA regulations are for the health and safety of the workers. While there is going to be frequently an overlap, we seriously believe that a guidance document like this is intended to show the growers what needs to be done to protect the product from microbial hazards. A bit of repetition may be of value, but let's remember both OSHA, the OSHA regulation and this guidance document are attempting to address difficult concerns.

And as for your concern with the health of workers, once again, this is something we heard very much, and I would just like you, if you are thinking of putting in a specific written comment, to bear that point in mind, the focus of the OSHA regulations. And, please, when you talk about the health of the workers, yes, we realize

that people are paid piecework, we realize that people don't like to be sent home when they need these dollars, but we also realize that they are frequently the last person touching fresh produce before it gets to the consumer. And not mentioning this, not mentioning the need for certain concerns with the worker's health puts us perhaps in the position of appearing to imply it is unimportant. If people with diarrheal illnesses or open lesions touch food, that is a very difficult position for public health officials to be in.

DAN DONAHUE: In response, I definitely understand. I think my industry understands that. It is just in a practical sense for the grower, packer, shipper, it is a difficult issue to deal with. That is what I wanted to convey.

In terms of duplication or restating OSHA regulations, again in a practical standpoint, I'm referring back to an earlier draft of the guidelines, they had a figure of five facilities should be provided with five workers or more. I don't believe that is in the last set of drafts,

the OSHA standard was ten workers or more, there is a discrepancy. Understanding that these are guidance, there is a specific OSHA number that growers know very well. So here's another number out here. Now I think in the latest version it says should be provided for all employees. I am not saying that is a bad idea at all. I'm saying there are existing regulations growers are used to, and we want to get our act together and be coordinated in what we do. We understand the importance of it.

THOMAS GARDINE: Okay. Thank you very much.

BEVERLY KENT: Steve Reiners.

STEVE REINERS: I'm going to come up here and speak so I can keep everyone in front of me except for you. I'm sure if you are like me, before you went out to lunch you washed your hands more thoroughly than you normally do. I've been an assistant professor here at Cornell working with vegetables. Prior to that I was six years at Rutgers in New Jersey in a similar position. I would like to comment on three different aspects today. First is on manure use, second irrigation

and final post harvest practices in crops.

First, to give you an idea of the diversity of the vegetable industry in New York State, it is about 140,000 to 150,000 acres. It is worth roughly 300 million dollars each year. This will be the only meeting you will have. If we take all the states from Maine down to Virginia, we are looking at an industry worth well over a half billion dollars, encompassing 350,000 acres. When we are talking about vegetable crops, we are talking about crops anywhere from 35 to 50. When I was in New Jersey they used to be proud of the fact they grew up to 50 different vegetable crops, which includes a lot of herbs. We are talking about a very diverse industry when we are talking about vegetables. If I am a farmer on Long Island and growing tomatoes, for example, as a single crop, when and how it is grown is going to be very dependent on what the market will bring. You better believe I am going to grow them on stands and with trickle irrigation. If I'm growing processing tomatoes in Pennsylvania, I'm going to have the least amount of input as I can.

In regards to manure, is manure used

on vegetables crops? Yes, it is. To what degree? I really can't give you an answer, I can't. It varies why is it used and why it is not used. I think probably the most important aspect here is how the, how close the manure source is to the farm. You are not going to ship manure a very long distance, it is not worthwhile to do that. Growers have relied for years on the soil quality, issues of using manure as an increased organic matter, increase soil till, reduction of soil compaction, as a nutrient source.

For the most part for vegetables crops manure is used, I would say put down usually in the spring and incorporated in the soil. Since most vegetables, the majority of vegetables will take at least 60 days from the time it is planted until the time it is harvested. If we are looking at what is that safe period from the time application to the time of harvest, for most of the vegetables crops, 60 days is a minimum. If we start talking about a minimum of 120 days between application and harvest for areas in this part of the country which are much cooler, 120 days is getting into the entire growing season. One of

the problems we would have then is manure would have to be applied in the fall or in the winter. And if that is done, it raises the possibility that the manure nitrates, which of course are very serious issues could be lost either to ground water or to runoff and other pathogens could also be lost as well. Nitrogenous matter of the manure would be lost significantly if we had to put manure down and allow for a longer period of time between application and the time it is going to be harvested.

I am sure everyone in this room knows about manure that is used in agriculture. There might be some, perhaps, media people that are out there today using manure in agriculture. It is certainly nothing new, it has been done thousands of years and probably up to this century. It was really the only source of fertilizer for most people. With the advent of synthetic fertilizers, less manure was used, and really up until the 1980s, with the exception of organic growers who continued to use organic manure and compost foundation for their production until the '80s, manure was at a minimum at that

time. With land grant colleges like Cornell Cooperative Extension, the use of manure by growers was encouraged. And to tell you the truth, one of the best things I have seen happen in my ten year career is the use of manure in vegetable crops because of the things I was talking about in terms of what it can do for the soil. And as a potential pathogen problem, it was really not an issue for me and probably for most of the industry here, until just about a year ago at this time when a cabbage grower was approached by a buyer who was buying cabbage or coleslaw and was asking if this cabbage was treated with fecal matter. That is the first time I heard of animal manure called fecal matter. In fact, we have other names for it, not usually that.

Because of questions that came up from some of the growers, a group of us at Cornell, Marvin Pritts, and a few others got together and tried to come up with some guidelines growers could use. I brought a couple copies of this presentation for foodborne illnesses. We need to base this on science. I know how hard it was to find the information that we needed to go

in here. Is 60 days enough? Is 120 days better? Is 30 days okay? It is hard to find that information. I know that a lot of work is going on at colleges and universities around the country. We are doing work here. More work needs to be done to base this on sound science.

We are also in the process of working with the industry developing a survey on manure use, to find out exactly what vegetables are grown in this state. And hopefully you will be able to look at this state and how they are using manure and what crops they are being used on.

The bottom line for me, as scientist, as a consumer and as farmer, am I concerned about the use of manure on vegetables crops? I would say with the way it is being applied now, it is not being side dressed because it is not an economical way to put manure down. I am not concerned about manure use. With the guidelines that have been suggested here and other places, I think growers are doing a good job.

In terms of irrigation practices, theoretically using trickle irrigation would

probably minimize potential pathogen problems in vegetables. But again we have to look back at the economics of that. The only time a vegetable grower would be using any trickle irrigation as Dan pointed out on Long Island would be if it was making money. If it's costing 400, $500 per acre to put in trickle irrigation system on cabbage, it is not going to happen. The water source that a grower uses, he usually doesn't have a lot of choice. If one source is contaminated that's probably the only source he has. It depends whether wells are used. In this area wells are not used because of the great depth you have got to go. We use a lot of surface water where potential problems could exist. If we are using water from streams, and if that stream is possibly contaminated from a dairy or another animal operation or even from septic systems, the question becomes does that grower need to test his water every time he irrigates. Does that grower need to test his water when he starts to irrigate, when he finishes irrigation, if he tests on Monday does he need to test on Thursday, how long will that be. We can do tests at Cornell at the vet

school for $25 a piece to look at five different pathogens. It becomes very expensive for a grower to be doing that. That becomes another problem.

In terms of post harvest practices, again, the primary goal for most of the vegetable commodities, being something that is extremely perishable, is to lower the temperature. If you lower the temperature and cool it down, you're going to have a product that lasts longer and quality is going to be better. One of the things talked about is using wash water that might be ten degrees higher than what the produce is to try to minimize any pathogens going into the produce. It is been standard practice in this industry to use cooler water. We have recommended the water should not be more than ten degrees cooler than what the produce is because we have often for years worried about possible soft rot bacteria, things like that that could hurt the fruit and the quality of that, tomatoes or other fruits could possible get into. We haven't concerned ourselves too much with pathogens. I can't imagine a grower who is growing quality produce would ever be washing his vegetables in a nonchlorinated

solution of water. In fact, if you were using water that wasn't chlorinated, it would be a perfect way, as has been pointed out earlier, to spread the disease.

Again, growers, I think, are doing a lot to insure safety of their products. But again I just want to point out that we can't over emphasize the value of animal manure in agriculture systems. And to move away from that, or to develop guidelines, perhaps, that are based more on emotion than on science can certainly be a danger.

With that, I would like to end my comments here. I don't know if there is questions.

THOMAS GARDINE: You have obviously read the sections concerning manure management. What specific guidance in there is giving you pause, concern, appearing to discourage its use, other than the comments on untreated and uncomposted manure and the 120 days? Is there anything in that section of that regulation -- excuse me, I was told if I ever said regulation, people would hit me, that section of the

guidance,, and please that was not a Freudian slip, that is just exhaustion, of that section that you would like to specifically bring to our attention? Is there something that you would think is disturbing and what you believe is very sound practice?

STEVE REINERS: I would have to look at it in more detail. Again, just -- well, let me, I'm going to have to look at that in more detail. I will make written suggestions.

THOMAS GARDINE: Very well. Thank you very much, appreciate that. Thank you.

BEVERLY KENT: Next we have Dale Hemminger, his commodity is vegetables. He's from Hemdale Farms.

DALE HEMMINGER: Hello. I'm going to keep my comments brief. The two previous speakers did a good job of touching on a number of issues. I'm general manager and primary owner of Hemdale Farm, which is second generation farm five miles west of here. We run 2,000 acres, half vegetables and half grain, and forages for 350 cow dairy.

There is some, quite a bit of

overlap here with manure and vegetable interest. We really want to emphasize we want to produce safe food. We want to do what is right for our industry. We also have to be able to survive and compete. And in today's world that means compete globally for our markets.

Couple issues I want to touch on with the application of manure. I do not know what untreated versus treated is. I believe all our manure is untreated. We store our manure in lagoons and we incorporate an awful lot of it to planting, generally plowing it down eight, twelve inches. This application gives us a greatly improved soil till, reduces the use of mined fertilizers which is very good for our entire world, and we have documented, seen an improved quality in the produce, because we think that the produce ends up with a more consistent supply of nutrients and has actually received a reduction in the root rot and some other things in root crops.

The science behind the use of manure is limited. We really need to look at that. If 60 days is the right number of days between application and harvest, everything I'm doing

today is okay. If 120 days is the right number, I am in big trouble. Our growing season is barely 120 days. We are going to be harvesting stuff along part of that.

Composting, composting is a wonderful, actually there is people in the industry doing a great job. The organic industry is doing a great job. For our operation, which is a large scale low margin business, it is impractical. We have 700 animals on the farm. Off the top of my head we are probably dealing with five or six million gallons of manure a year. So as far as any direct manure application to crops, I don't know of any. I can guarantee it is not going on in our farm. I don't know if it is going on any vegetables in the northeast. I think that is where you need to focus, people putting manure overhead or side dressing onto a crop.

The discussion about irrigation, the issue of drip irrigation is not practical in our business. Steve's example is a very good one. If we were going to stake tomatoes for Franmark (phonetic) where the potential is four to ten

thousand dollars an acre, drip irrigation is an option. You might say why are you concerned? I think everything that happens in the fresh produce industry will go on in the processing industry. We also do some fresh on a limited basis. Drip irrigation is not practical. It is logistically improper with 1,000 acres of vegetables. I traveled to Mexico recently and if I'm going to drip, I'm going to drip irrigation, I'm going to hire workers for 50 cents an hour. That's where economics comes in. We irrigate primarily from a creek. I would like to know what we need to do to have confidence in that water supply and right now I don't know that. We also irrigate from some ponds, and that is all overhead irrigation. The mention of covered reservoirs is just not practical. If I'm going to build a structure that big, it is going to have tennis courts inside and generate some income.

And I guess in closing, I would like to comment, we talk about these being guidelines, not regulations. I totally appreciate that. I am hopeful this process is going to lead where we all want to go and that is a food supply that's safe.

Our food supply is darn safe now. We need to identify what can go wrong and identify the areas where we need consistency in the industry and not have people doing things wrong. But my business is primarily selling the food to processors, the two food processors in New York are Agarlink Foods, formerly Curtis Burns and Seneca Foods. They supply to Wegman's, the local state of the art grocery store chain in this part of the country, as well Sysco Foods, a national food distribution company. And while your regulations, your information is guidelines now, these guys are going to tell me if I want to be their grower, then that is what the regulations I'm going to live by.

So your guidelines for tomorrow will turn into my regulations, whether it is government mandated or not. We have been signing documentation we weren't using municipal sludge from certain companies for over ten years. There is not any federal regulations on that, but one small company in particular based in New York City decided they wanted this issue addressed ten years ago and we signed we weren't using municipal waste

on their cabbage acres.

In closing I want to emphasize what Dan said, we welcome you to visit our farms, particularly during the season, to understand our challenges. I have friends that have left the industry, as well as friends that are familiar with our industry, they tell me there are few industries as challenging and diverse as ours. I grew up in this industry, I don't know better. Mother nature throws us curve balls everyday. We need to be able to change, move with the weather. We cannot do this with guidelines that are too stringent.

In closing I would like to quote Eisenhower, farming looks mightily easy when your plow is a pencil and you're a thousand miles from the corn field.

THOMAS GARDINE: The concern raised by several people today is what we put out as guidance is quickly going to be standards that your buyers are going to demand.

DALE HEMMINGER: Right.

THOMAS GARDINE: The guidance we put out is not a regulation, there aren't many numbers

in there, it doesn't say you will test this water this way. How do you see it as challenging to meet a guidance document that is so broad in nature? What sort of documentation might they require? What sort of hoops and challenges will they demand of their suppliers based on a document of this form? What can they point to and say do this.

DALE HEMMINGER: Well, the --

THOMAS GARDINE: Other than covering your reservoir.

DALE HEMMINGER: For instance, composting manure. If we were told we had to compost all our manure, we would stop using manure on vegetables, maybe we would stop growing vegetables. I will tell you right now we would not economically be able to deal with that. If we we were told 120 days, we would have to stop using manure on 75 to 90 percent of the vegetable products. It is not economically feasible in this part of country, or apply, which was suggested, in the fall. In the fall we would have triple size storage. We have made a step backwards in the recapture from the nutrients in this manner. Any

manure applied in the fall in this part of the country where we have the heavy rainfall and snow pack all winter, the good share of the nitrogen is lost, that leaches, goes on into the aquifers, which they are trying to get away from. Ideally manure stored, applied previous to planting, breaks down and crops can utilize it for nutrients.

Those are the only two examples I have right off the top of my head. There are people here from the industry, both of our Coops and Wegman's Foods that maybe they have comments where they see sticking points here. Like I said, we are trying to move in the same direction. We also need to end up with regulation that the American farmer can live with.

THOMAS GARDINE: Thank you very much.

JOE FERRARA: Is nitrogen loss also an issue with composting manure?

DALE HEMMINGER: It depends again on the type of composting that is being done. Whether it is being exposed to the elements means anytime you have a nitrogen source like manure you

turn into compost, putting it down, we have always got a chance of losing some. It is possible. I'm sort of stepping out of my field by getting into that aspect.

BEVERLY KENT: Maureen Marshall, her commodity is vegetables. She's representing Tory Farms.

MAUREEN MARSHALL: Good afternoon. I'm very glad to be here. I'm Maureen Marshall representing Tory Farms, 11th generation farmer here in the United States. I farm with my two brothers. We are primarily fresh market vegetables, processing grains and two years ago we added a dairy farm. We currently milk about 750 cows. One of the reasons why we did go into the dairy business was to have a source of fertilizers from the manure to use on a rotation crop of the grain and to use on our land as a way to combine all the facets of our farming. We are also not only growers, we also have a packing shed. We are shippers and we also have a transportation company, so we take the food, the vegetables from the field right to the chain store.

We are active in trade

organizations. I'm a director of the United Fresh Fruit and Vegetable Association, a director of New York State Vegetable Association and many other organizations. I have a master's degree in common sense, and my experience is that guidelines become regulations, and currently working on my doctor's degree. I have a great concern in the rush that this initiative has been under, and wonder why there is so much pressure to act so fast. Are we disregarding the substantive for the uncertain. There is so little sound scientific information about produce and foodborne illnesses, no real risk assessment and no real public health code set. Let's do our research on causes on foodborne illnesses. Have we put the cart before the horse? I think so.

We need to work together on this. I need to take this guidelines that I received in hard copy today and read it thoroughly, respond to the different practices that you have outlined in this.

Hearing the comments I have heard made today, I echo with Dan and Steve and with what Dale have said, I won't repeat those. I will

follow through with a written copy. I have to thoroughly read this. You need to visit our farm and talk to the farmers and producers. Our farming methods differ for the same commodity from different regions of the country. Here in the northeast we are lucky for our cold weather, even though we curse it. Many times our cold weather helps kills our disease problems. That is one of the differences from my competitor. I wonder, have you done a cost analysis or impact statement on the cost of the consumer or to the grower? I haven't seen this. Have we done enough to reeducate consumers on how to handle food. I see school children not washing their hands before they eat lunch. I see unproper refrigeration and handling at picnics, gatherings. In the consumer's kitchen I see cooking procedures and cross-contamination between food. Are we not starting at the right place? Do we not need to help educate consumers, work with our trade associations and with our government agencies.

I'm proud to be a grower who has made and continues to provide the world's safest food supply to a population who enjoys the ability

to live longer than ever. I trust that you will take your leadership and help us fill in the knowledge and scientific gaps this guideline has. If not, I don't see a future for commercial growers of fruits and vegetable in this country. Thank you.

THOMAS GARDINE: Thank you.

BEVERLY KENT: Is Walter Blackburn here? Walter's commodity is apples. He represents Apple Acres.

WALTER BLACKBURN: I'm an apple grower and packer and cold storage operator in Lafayette, New York. It's about 40 miles east of here. I grow 185 acres and store and pack apples for several other apple growers. In talking about the good agriculture practices, I want to concentrate, our current practices differ from those recommended in the draft, and are difficult in complying with the requirements of the draft.

Usually when I take people around our farm, through our packing house I gloss over these things, I don't like to point it out, but today I brought myself to the discussion. I am not going to address the benefits that the draft's

recommendation may bring about. Although having shipped millions of bushels of apples to consumers, I added that up, it is several million, I have never heard of a consumer getting sick through an apple. I occasionally do hear from consumers when they don't like the apples they got.

Irrigation is the first practice covered in the draft. We irrigate about 40 percent of our acres from wells and ponds. My neighbors irrigate from a stream, from wells, from ponds and when the stream gets low, they irrigate from a swamp. Almost all of this water would not meet qualifications you are asking for in your draft. My pond is frequented from many forms of wildlife and have fish and duck living within it. Treating this will be a major expense, keeping wildlife out of it would be an expense. I don't know what, if anything, would be kept out by covering the pond. Other growers use other sources of water, among them Lake Ontario, municipal water supplies and Erie Canal. And all those sources of water are treated when they are used for drinking water, but only the municipal

water supply will provide water to a grower that is good.

Trickle irrigation use to eliminate pathogens will be a great expense. Most packing houses use water to empty the apple from the field container to the packing line. We make up water to that tank daily. We clean the tank once a week, and change the water. Our water receives no other treatment once it is in the tank. Some packing houses do treat their water continuously, between changing the water. Our weekly draining, changing is about a three hour job, and to refill the tank with water is about a ten hour process. Frequent cleaning and refilling is certainly possible, but I believe it would not be adequate to give the water quality that is expected in this draft I understand from those who do treat theirs.

Secondly, covered in the draft is the use of manure. Fruit farms usually do not use manure or sludge. Wildlife manure may be an issue. I can think of no effective control measure to keep all forms of wildlife out of the Orchard.

The next draft covers sanitation.

And hygiene field toilets and hand washing facilities are required under OSHA regulations, and are provided by most growers. My perception,, however, is that they are not used by many field workers, and supervisors have no means to require their use. It is simply too easy for a field worker to go behind a tree. Packing house workers use toilets regularly, but may or may not wash their hands. We do not monitor that. And monitoring employee health, found most workers will not report health problems unless they wanted to miss work and associate income. I am not aware of a solution to this problem, except for further worker education. Our workers in the packing house wear latex gloves when working with wet apples. They are not required to. In addition, federal and state inspectors handle fruit during inspections, I never see them wearing gloves.

I will turn to the cleanliness of our packing equipment. It is not modern equipment, it is not equipment for washing down. There is many exposed switches, many open, drip proof motors, unsealed bearing belts, things that can't tolerate water. There are many places where

leaves come direct contact, and are unacceptable, but hard to clean, unless the machine is disassembled. Which we don't do very often. We use a large brushing machine to brush the apples and that machine, the brushes on that machine are damaged most of the time. The purpose of brushes are to clean the apple and to dry apples, so that would be a difficult thing to keep clean and to keep sanitized. There is a large amount of dust in the packing house. We use all new containers, cardboard boxes, and cardboard boxes bring in an awful lot of paper dust. It is just amazing how that fowels up everything, as well as apples bring in leaves and leaves bring in dust.

So no matter how frequently we clean, the dust is always there. And as I said before, when we clean, we don't clean inaccessible places dust accumulates, ever.

Now, to trucking, trucks we hire are clean, but that doesn't mean they are sanitized, when the truck comes in not clean we send it out to get clean. But, again, I say it is not sanitized. Temperature control in trucks, it is not a problem, trucks are all refrigerated, which

is something we require for the, to maintain the quality of apples.

Tracability, we can trace apples from our shipping dock when we ship them out back to the orchard. They are all in bins and are labeled when they come in, and those records are kept right through the packing process. When our customers get them, our customers are all chain stores. I believe that most apples that are displayed loose on the counter are not tracable because they get apples from many suppliers. In most cases they won't be able to identify ours from other packages.

I guess I would like to add one more thing. I think regulation like this will make it difficult for the small farmer to continue. A large farmer can afford to make some changes in his operation, but the small farmer finds it more and more difficult to compete today, to stay in business because of the high cost of the new equipment that is involved now in production. Thank you.

THOMAS GARDINE: Thank you.

BEVERLY KENT: Next Rika Davis. Her

commodity is fresh vegetables. She represents Roads General Farm and also Finger Lakes Organic Growers Cooperative.

RIKA DAVIS: Some of this is going to sound familiar, some of it I think you heard nothing like in this meeting.

At any rate I would like to start -- well, I will start by saying I'm pleased to be here or to have been able to be here. As pretty much everything else, as I would like to go on from there to start discussing the process of holding these meetings, which are supposed to attract as much public comment as possible. I am sure you have been hearing from lots of people there was very poor notice, that there was very poor publicity, the information I got from this meeting I got in the middle of Thanksgiving Day weekend, less than a week ago, as one flyer from cooperative extension which was sent out by Ontario Cooperative Extension. I never heard at all, by the way, of the meeting on November 17th. I don't expect I could have been there. If the room was empty it was because you had no draft to comment on, because nobody knew about the

meeting. There has not only not been enough notice, there has been no availability of this draft before the meeting except by way of the internet. And I think the people who are used to using this means of communication need to remember there is a lot of people if this country who do not yet have net access, who do not have a computer for a wide variety of reasons. I wound up spending three hours Monday night waiting for the computer to download the document. I have friends and farmers in the Mennonite community, they do not use the internet. These should have been announced in all the trade publications of which there are quite a few, some of which do not publish every three days, some of them publish weekly, monthly. At least the ones that publish weekly or monthly it should have been announced, in addition with an address or phone number that one could call or write to receive hard copy of the report in the the mail sometime before the meeting. If the United States government really wants to have an open process and wants to have public comments from a wide variety of growers in this country, that is the way to do that. And

this sort of thing is not the way to do that.

I will pass this on as much as possible. I will note the deadline for written comment is still too soon to get this copy out to most of the written press versions because most of them are past deadline for the next issue. Some of them will not publish a next issue before the deadline for written comment. We will get word out best we can.

To go to the report itself, this is currently very vague, it's full of recommendations. We have been hearing repeatedly this is not regulation. As if this is meant solely to be information as to things that people should pay attention to, it is not going to do any harm. I don't think it's going to do a great deal of help either, because I think that the cases in which there really is serious contamination, as long as we have this massive pressure to produce all food as cheaply as possible, you are going to have some people cutting corners. And if they have got non-binding suggestions as to what they can do that is going to cost money.

They also have massive pressure

coming from all levels, including federal government, to produce food as cheaply as possible, including as cheaply enough to compete with the people producing it at wage levels of 50 cents an hour or in some cases less. You are going to have a lot of trouble getting people to take proper care with their fields with their produce. You need to get people willing to pay what the food is worth. If you start putting these things in, either in by name or in an effect as regulation. While still not being able to pay what the food is worth, then you are going to have more and more of it coming from places where the labor force work for 50 cents an hour. I rather doubt the inspection, that enough money is going to be spent at the inspections at the borders to give us anything like the clean food quality that we are going to be expected to produce.

I would like to point out that there has been a great deal of talk about the dairy practices upstream and many diversified farms. The dairy operation and the produce practices are on the same farm. A great deal of produce in this country is produced, and in my opinion should

continue to be produced, by small growers, diversified growers, people who may, in some cases, have 30 or 50 different vegetables crops, a few acres of vegetables, who may have 20 sheep over here and may or may not have a small dairy operation. And any standards in terms of manure handling -- it is one thing to tell a feed lot maybe they are going to have to pasturize what they are producing. But to tell somebody with 20 sheep they are going to run law for a pasurization process, it is essentially not going to occur in these operations.

We have and in fact been producing clean healthy food in this country for many years now with regulations designed for very large operations and for operations with a limited number of crops and with no livestock integrated into the operation on the farm. And the studies need to be done to determine whether food contamination, in fact, is in fact a problem in operations with chickens in the fields, with wheat or geese in fields, and strawberries with deer coming through the fields. I would be interested with the way, with the sort of fence operation the

government thinks will keep mice out. We are going to have animals in fields no matter what we try to do about it. We have some control over which ones and how many. We need to know how long these contaminations exist in these situations. This work needs to be done.

We hear a lot of having good science in here, part of the good science is doing these studies in these situations not only in a control environment, in an otherwise steril patch. This not only isn't a sterile world, it shouldn't be a sterile world. It does not work as a sterile world. Organic certified organizations working with small diversified farm can supply useful information here.

For instance, NOFA of which I am a member, New York, does in fact have manure handling standards addressing the issues brought forth in the report as well as addressing other issues, environmental issues. And a number of other people pointed out that putting some of the recommendations in this report into practice in the wrong fashion, might in fact have massive health repercussions elsewhere from environmental

damage. We do in fact have some regulations on this.

We also have been doing a lot of work in the last couple of years on what you have been calling, I believe, traceback and what the organic community, including the federal organic people in Washington, have been calling an audit trail, we are in the process of trying to work out audit trail procedures that are suitable and not impossibly burdensome for operations that may have 30 to 50 different crops in one field, many of them being picked repeatedly over a period of time over the season and going to several different markets, including farmers markets, wholesale operations and on the farm. We think its possible, in some fashion, to do this.

I think before attempting to put in any of what you are calling traceback regulations, you need to investigate the work that has already been done in this area.

In a little different direction, I'm disturbed to find this report supporting the use of sewage sludge. I understand the scope of this report is microorganisms and not toxic metals.

The version that I did get from the internet stated three separate times sewage sludge is beneficial material. And, well, I feel that the microorganism problem actually can be dealt with if properly treated. There are sufficient concerns in terms of heavy metals and other toxin build-ups that our area cooperative extension, for instance, is extremely concerned about this. I don't think it's the scope of this report to be specifically recommending the use of such dubious material. We need at some point to get human waste back into the system also. We need to be able to separate it from these other materials, we don't seem to have that ability yet. When the reports suggests that information derived from handling sewer sludge in terms of lengths of time and compost techniques to breakdown microbial contamination is transferable to manures, probably some of it is. The work needs to be done separately on otherwise clean manuers. It is quite possible that the results gotten from materials that have other toxins in them such as heavy metals may not be accurate when applied to otherwise clean farm produced manures, the times

necessary and the temperatures necessary may or may not turn out to be different.

Much of the problem that we have been reading about in the newspapers and hearing about at these meetings in terms of contaminated foods has been cases in which people have gotten ill over a wide number of states due to a problem originating almost certainly in one packing house or potentially on one farm or at one point in a transfer line. If the government is really serious about improving the safety of the food supply in this area, the government should consider also as much as is currently reasonably feasible discouraging large centralized packing houses and extremely small farms and unnecessarily long distance shipping. Smaller suppliers should be shipping over smaller areas. It is not only a problem in one spot going to create a less of a difficulty, it is going to be a lot easier to trace it back, plus whichever additional set of hands, every additional truck or shipper or other process between the farm and the consumer adds another potential source of contamination to try to deal with this difficulty, which has a great

deal to do with our food system. Solely by descending upon the growers at the farm level and not addressing the rest of this issue does not seem to me be appropriate.

In terms of visiting farms, by the way, this is a very good idea. Organic operations often also actually take farm interns. If you are really curious about what is happening at the small farm, medium farm level, possibly somebody in your office who is tired sitting in the office could take a season internship at the farm, so as to give a better understanding of what is going on at our end.

I may well have other things to say about this report had I had more time to look at it and to consider some additional things that came out at this point or others. I will probably also be sending in written comments.

THOMAS GARDINE: Thank you.

BEVERLY KENT: Does anyone else have any industry group presentations before we turn it back over to the floor? I really appreciate Maureen's comment about consumer education. It was brought up earlier in the day, and I want to

speak to that again. My name is Beverly Kent and I am from the Buffalo FDA office and certainly we are the closest FDA to this area. And to give you an idea, we service the entire state of New York except New York City and the five boroughs. We spend a lot of time in consumer education. We work very, very closely with the Cornell Cooperative Extension Service to get our information out to the State of New York, because obviously it is a big state. And we have one public affair specialist, her name is Diana Monico, also Debbie Davy helps in the public affairs area. If you know of consumer education activities that are needed, please contact our office and we will do whatever we can to get information out to the consumers. Our office phone number is (716) 551-4461, and again our public affairs specialist is Diana Monico.

Tom, did you want to say anything about education at all?

THOMAS GARDINE: Just to reiterate what I indicated before, as part of this, there will be education outreach on both the retail and consumer levels, and hopefully we will be able to

get some more details out, perhaps through industry groups.

MAUREEN MARSHALL: Unfortunately I had to come in late. I know some other people did too. Can you reintroduce the front table for us please?

BEVERLY KENT: I will start from the last and go to the right. Rich Baldwin, he's the acting director in the northeast region, and Buffalo, New York is part of northeast region. It encompasses all the northeast states. Then we have Joe Ferrara, he's from New York State Department of Agriculture and Markets. Mark McLellan from Cornell University, Marvin Pritts from Cornell University, and Tom Gardine from our Center for Food Safety and Applied Nutrition. We also have Joyce Salzman. She seemed to have disappeared. She was one of the drafters of the document.

We will go ahead and open it up to questions on the floor. Please, again, go to the mic, speak clearly, state your name, affiliation, and please speak slowly. Thanks.

JOHN RUSSKIEWITZ: Thank you. I'm

John Russkiewitz, I grow onions in Orange County, not too far from New York City's doorstep. I'm going to start out by overstating a point to make a point perhaps. And that is as this country imports more and more of its fresh fruits and vegetables from overseas, the applicability of your guidelines are going to become less and less. In other words, what I'm getting at here, what is going to be happening to our competitors in overseas countries, my comments are coming from the perspective of having spent six years in the Middle East and two years in Vietnam during my military career. So I've looked at a lot of horrible stuff, I might add my tummy has had a number of problems here and there, nothing like these 24 hour bugs we run into here sometimes.

I'm going to move on. Not long ago there was a radio program talking about washing hands. And the comment was made that in the country, in this country, this year 40 million people will be getting sick because hands were not properly washed. And not too long after that, I was on the Thruway, I stopped for a pit stop, went into the restroom, heard a toilet flush on my

left, saw an employee of one of the fastfood restaurants emerge, and notice he didn't wash. And for the hell of it, I followed him back to his workstation and I asked to see the manager. I told him what happened and you know how things happen, so much for that. You know, in the world we have this situation where you have societies where hot and cold running water is more the exception than the rule. When you have situations like that water gets carried, because it doesn't come through pipes, because of that, or part and parcel with that you might say, percapita consumption of toilet paper is very low, and with that of course people are not in the habit of washing their hands, and this is where we are getting more and more of our food product. Some of these people are what should I dare say they are walking timebombs loaded with pathogens and parasites which could be deadly to some of us whose stomachs aren't castiron.

I specifically remember when I was in North Yemen, the Ambassador getting tapeworm. The thinking was he ingested or breathed in the dust, because we all lived in homes that had huts

around them, and it was not uncommon for people to deficate near your wall. During the dry season this stuff blew up and dried all over the place. If anybody thinks I'm getting too gross, raise your hand and I will stop.

In connection with this last week's Packer had an article about the California grower. I wish I could remember the commodity, the announcement was this farm operation was pulling out of California and they were going to Mexico. Why were they going to Mexico? Somebody said something about 50 cents a day. People will work cheap if they don't have to pay for running water. People work cheap if they don't have electric bills to pay. You go and on.

This is basically what I wanted to mention. The idea of what is going to be happening overseas because, you know, my survival is contingent upon a level playing field. Your Freudian slip --

THOMAS GARDINE: I said exhaustion slip.

JOHN RUZZKIEWITZ: I will show you how that works, my brother, my son and I all have

college educations, we practice IPM, we scout our farm seven days a week from daylight to dark, but we don't do it the Cornell IPM way. We don't hire a scout who don't know the differences between a cutworm injury and muskrat injury and comes only twice a week, if you insist, instead of once a week. I probably cannot sell my produce to Wegmans because I don't practice the IPM, the quote, unquote, prescribed way. That is all I have to say. Thank you.

JOHN RAPPA: My name is John Rappa. I'm with NRCS. My comments are mostly as a citizen. Yes, in the past we have seen food scares regarding apples, regarding hamburger, regarding strawberries, and, yes, I agree with the President's Initiative that food safety is an important issue, and that we should do all we can to insure that we all have good safe food to consume.

But I think the initiative in a way is a little limited because we are focusing in on our farmers, we are focusing on the manufacturers, and if you deal with farmers, you know that they want to put a good product out on the market

because it is important to them because it reflects their income and the economics. I don't think our manufacturers are out there to try to do a bad job in processing food for us to consume. I, at the same time, think it is important that the initiative be expanded to include the sellers. We have certain sellers in the area, certain grocery stores that are trying to improve their quality of products by working with farmers, by using IPM practices so they can get the quality food out to the consumer. So I think the sellers should be part of the initiative rather than being in the background, not in the foreground with the other two partners.

I think it is also important to have consumers as part of the initiative. It's important how they handle the food, when they go in the grocery stores, when they come home, how they prepare it, things of that nature. They should be a partner up front, rather than background. So we all in the food chain are doing what we can to insure that we all have safe food and all stay healthy. Thank you.

STACY ZAWELL: I just wanted to

point out something we discussed at national advisory committee. This is under water section in the introduction. There is a reference to a Salmonella outbreak associated with unpasteurized orange juice. It states although the causes of contamination was not identified, one of the growers supplying oranges to the implicated processing irrigated with surface water that may have been contaminated. This came up in the discussion at the national advisory committee the other day. In fact, the contamination, the Salmonella was found on a number of critters that were in the plant that should not have been in the plant, such as frogs, lizards, in fact, that was confirmed at that meeting. That will get changed in the paper. I encourage you to increase the accuracy of this document and have it reflect the accuracy in this document.

UNIDENTIFIED SPEAKER: I realize the guidelines are merely guidelines. I was wondering if one of your connections with the FDA would look into your crystal ball and tell us what sort of discussion you're having and how this will be communicated to our trading partners and how their

growers will be reading your guidelines.

THOMAS GARDINE: I will respond, because one of the reasons I wanted to get up and speak and talk about the previous comments and questions on the level playing field.

Two things to remember, what is guidance for U.S. growers is indeed guidance for our foreign trading partners. Nonetheless, as in the U.S., if we become aware of a situation that clearly poses a risk to the public health, we will take action to prevent that product, be it fresh produce, be it canned food, be it frozen food, from reaching the consumer.

One of the aspects that we are trying to work on right now internationally, we have a mechanism in place through the ability of states and USDA extension to evaluate farming practices in the U.S. We have to find a way, as I think I indicated on the earlier slides, to evaluate and assess conditions in foreign countries. Clearly, as in the U.S., where we hope to work with extension service workers within the states, work through them, excuse me, we hope in foreign countries to work through the governments,

perhaps through their trade organizations, nonetheless there will be a component, we hope and expect of U.S. governments representatives assessing conditions in the foreign countries, and of course, if we come to a condition that clearly represents a public health hazard, not just a deviation from guidance, but something that is a public health hazard, as we would in this country, we would take steps to stop the introduction of that product.

We are very concerned about the level playing field issue. We intend to, within the limits of our resources, to address that and apply our evaluation techniques and our assistance in terms of outreach and education at the same level, internationally as domestically. Obviously you have a follow-up question.

UNIDENTIFIED SPEAKER: I guess some of us are not very impressed with the swiftness our government acts upon issues. It takes a year to resolve the tomato dumping issues.

THOMAS GARDINE: The tomato dumping issue, you are now getting into a different realm as opposed to public health. That is not the

people in front of this room.

JEAN WARHOLIC: My name is Jean Warholic. I'm with the New York State Vegetable Growers. My memory is very long, and I remember protection standards being a series of guidelines. When my eye fell on a piece of legislation it raised a red flag to me. Also I'm going to read from something I put in our newsletter. Senator Hollings in late October proposed the Sanitary Food Transportation Act, it would mean broad new enforcement in record keeping authority by the FDA. This particular proposal, again is a proposal, a bill, it doesn't mean it will go anywhere. Here it is: The Highway and Surface Transportation Safety Act of 1997 would transfer the transportation, Safe Food Transporatation Act enforcement authority from the USDA and FDA from the DOT. The USDA would have primary jurisdiction over the inspection and regulation of meat, poultry and eggs with FDA presiding over all food products including fruits and vegetables. The DOT would retain jurisdiction to enforce the transportation adulteration provisions of the Food Drug and Cosmetic act.

Transportation of food in violation of regulatory standards prescribed by FDA would lead to the food being deemed adulterated as a matter of law. The amendment would provide FDA the authority to compel the development of traceback and recall systems for produce growers, shippers and others in the distribution chain.

This makes me a little nervous. It tells me there is some entities in Washington that are making points or warming up real quickly to the guidelines than we perhaps thought otherwise.

THOMAS GARDINE: Can I comment back on that?

JEAN WARHOLIC: Please.

THOMAS GARDINE: Please note that that was not administration legislation, it was apparently introduced independently. We have no control over this as an agency. I personally do not know what position the Food and Drug Administration is a taking on that bill. Please remember we have 400 different congressmen, there is no way any of us, except the people charged to do so, can keep track of every bill presented that might affect the Food and Drug Administration. As

you indicated, many of them go nowhere. Indeed we do not know what will happen with this one piece of legislation.

We have proposed the President's Initiative, the president could propose it, it doesn't mean congress will adopt it, nor does it mean they will adopt it in the fall as the administration submitted it. So what you are saying is very interesting for the sake of this audience so they don't think there is double dealing on the part of the panel. That is not an administration bill. I can honestly say I personally did not know what the position is of the FDA or administration has taken on that bill.

The other reason I got up, in addition to talking about the issue of level playing field was to stress we are aware of it, let's remember everything we do must be in conformance with the treaty obligation under GAT and the World Trade Organization. This produce safety initiative is the latest part of the President's overall food safety initiative which he announced earlier in this year. It is his call to safety from farm to table. We are well aware

of the need to get retail involved in this through training, education and outreach, and the need to get the consumer involved in it. And we are doing that. But for the purpose of this meeting, we did not prepare, perhaps, and perhaps should have some additional background on what we are doing in this area. This is something that we may be able to fix for the next round for the other planned meetings, but I just want to assure you the concept is safety from farm to table, that includes retail, that includes the consumer. For the purpose of this meeting, however, we are talking about what we were doing in terms of guidance for the grower.

BEVERLY KENT: Are there any other comments?

TOM YAWMAN: My name is Tom Yawman. I'm also on the faculty at the experiment station. I want to talk on the manure intervention program. I'm surprised that particular piece is getting everybody's attention. A lot has been said about the need for science on getting good guidelines on that.

I would like to speak specifically

to some of the information we could use. I think in vegetables we are particularly concerned about the benefits of manure. One of the things that makes healthy soil is by having microbial biomass in the soil. The way you get bugs in the soil is feed them organic material. The plan to add manure is a very good one, and it should be encouraged as much as possible. In doing so, composting is the best. I think there is very little disagreement if you can apply composted manure, that is definitely the thing to do.

There are a couple limitations in how this is done that have to do with science and information. One is really the delivery of information for farmers on compost. For dairymen here, it's being done to a fairly large extent. It still has limitations getting the information to dairy farmers who could potentially compost their manure, but are not doing so because they can't figure out how it would be done.

The other is compost quality. This something that has been addressed, sewage sludge composting. I think some of the things that have been brought up earlier, what are the time and

temperature criteria during the compost process that will eliminate pathogens. I think biologic science does not describe very well.

Sewage sludge composting, I think, most importantly is how can you tell the compost is going to support the growth of human pathogens. It is really a matter of determining what the safe composition of that is and whether or not it will support human pathogen growth. It is clearly a highly researchable subject.

I would like to go on to untreated compost. Dale pointed out in his large highly efficient operation composting is not going to make sense. At the other end of spectrum, for a very small dairy operation, and I am thinking locally of certain Amish and Mennonite dairy operations, they are not going to be composting, period. It is not going to be happening, but they are going to be using dairy manure on vegetables.

We need guidelines where there is actual numbers in the guidelines that you provide. And I have had a little bit of experience in seeing how the guidelines get implemented. I've served on the certification

board for NOFA New York. We certify most of the organic vegetables farms in New York State. This spring it became necessary to deal with the issue of e. coli and manure application. The main piece of information that the NOFA standards board had to go on in deciding what to make the standard was the brochure that Steve Reiner and his colleagues put out. So 60 days was a pretty good number, because a lot of people buy a lot of organic food for safety issues 60 days before sewing was standard. 60 days before sewing means the last manure application before snow melt. If you want to create minimum public health hazards, that is a pretty good way to do it. The consequences of trying to be safer from public health standpoint made it worse for many, it violates other standards of NOFA New York to apply manure at that point.

What the guidelines needs to say on this is conversion of untreated manure needs to be applied in a way to mimimize contamination. That is safe enough. Farmers can try to follow, they need numbers so they can follow something on their own farm. The specific numbers that they need and

what is researchable, how long does it take under field conditions for human pathogens in untreated manure to be degraded. We need to look at a variety of field conditions. Clearly they will disappear if you apply them in March when it is below freezing and the snow melts and soil is saturated with water. Then if you apply them in August when it is dry and warm and very, very metabiotically active in the soil, that is clearly researchable.

We don't have any kind of data like that. I think even if the guidines don't have numbers, farmers will very much need those numbers so they can do the right thing. Thank you very much.

BRIAN CALDWELL: I'm Brian Caldwell with Cooperative Extension here in New York State. I cover vegetable and dairy production in the four county area to the south. I guess my take is going to be a little different on this. The issue of wildlife in the fields was brought up, it was spoken of in the way that one would think the growers don't have much they can do about that which is true. However, state and

regulatory agencies do have a lot they can do about some of these issues, particularly with deer and beaver. And those, I am not sure what the real research connection is between deer and some of these issues. I know that beaver have been a majority and I guess if some of the recommendations from this effort could be made to some of the state agencies to facilitate lower deer herd populations, and the only reason I really came up to say I hope the growers will listen to this is this is one of my pet issues, anyways if they could be informed that there are perhaps some human health issues related to having deer presence and high deer herd levels and also to make every effort to get rid of beavers in some of the swamps.

THOMAS GARDINE: Do you guys in the extension service talk to each other? This is exactly, is this orchestrated, this is exactly what one of your colleague's comment was at the meeting in Grand Rapids, nature resource people won't listen to us, maybe if we put a public health aspect to this they will.

ANU RANGARAJAN: My name is Anu

Rangarajan. One thing that, I was in looking through the agriculture water section of this document that I think we need to rethink about a little bit more, and I will make written comments to you, is the water testing. I alluded to some of this earlier. We don't have any science behind testing as to when to test, how to test and the timing of the test. When the grower was to pull the water test, the water they would be using would be downstream, by the time they got the test results back they probably will have a different result from the same sample site. There is a lot of issues about this ecosystem management that we have to consider when dealing with issues of agriculture water testing.

The other one there is reference here to testing for e. coli. When we did a whole sweep, a sweep for five organisims we got back a positive Salmonella. Then the testing facility had to send that out for typing. There is over 200 prevalent form of Salmonella. That gave us a four week delay of whether or not this was a concern. I'm not sure how we deal with this.

THOMAS GARDINE: But e. coli has a

measure of potential fecal contamination. Is that a viable approach or can you think of another one? If you are going to give us written comments, please think along those lines, not so much as having to speciate the type of e. coli or Salmonella or organisimis that might be there, e. coli as a measure of fecal contamination of the water supply. And what you are saying about, you know, might be very true for river water, but is it equally true for somebody who is drawing from a pond, reservoir, a well and a swamp, I guess is different to some extent, you know, but less true than in a river.

So please, you know, think of it not as having to speciate e. coli, find which pathogen of e. coli is there, but look at it as fecal contaminatin of the water supply and e. coli as an appropriate rough estimate of fecal contamination of water, just quick test that would be done to give general idea of water quality.

UNIDENTIFIED SPEAKER: I think there is some fluorescent tests that are pretty instantaneous.

BEVERLY KENT: If someone has a

comment or question please proceed to the microphone at this time.

STAN IWANICKI: My name is a Stan Iwanicki. I'm with Agralink Foods. I have several comments. Someone raised the issue before about processing, requiring the guidelines to be followed. As a processor that, to some extent that could be true, and the reason it's true is because our customers will likely demand it. It is not something we would probably do on our own. Our customers are people like Wegman's, the supermarkets. We also supply bulk vegetables that are frozen to people like Conagara, Nestle and other processors for frozen foods. The problem we run into is every time there is a food scare in the newspaper, there is a buyer somewhere who has the education, all their food safety education from the popular crest, who finds something like the guidelines in the public documents and decides that that is a good idea to require as part of the their specifications. So, therefore, it becomes a de facto regulation or standard, and that is what we run up against.

THOMAS GARDINE: You know, once

again, my question becomes what will they do, they will come to you and say you should be in compliance with the Good Agriculture Practice document and you turn around to your grower and what will you demand of them? How can this document, which as I said appears to me to be designed to be a self-evaluation assessment with the intent and hope that growers where they see defects address them. What can you do about the lack of numbers there that you would require growers to meet? Well, that is my second point.

STAN IWANICKI: As the document stands right now there are no requirements and there is nothing number wise, it is rather quite vague. There is a demand, there is a lot of research that is needed to be done. I think we agree that that has to be done. We run into the same issue on the Food Quality Protection Act. There is a lot of research that needs to be done, the problem is who is going to fund that research.

I guess that is my question to you. What type of research funding is behind this program? Because what I have seen out of the

conferences that the research is needed. The research is required, everybody says we need to do it, yet it is not funded. How do we answer that type of question.

THOMAS GARDINE: I don't know if anyone from USDA wants to try to answer this too, but I will point out that we are preparing for our '99 budget. We believe we have a commitment for funding for research. We are putting our research proposals into that budget, and, you know, not necessarily that we will do the research, but maybe contract it out. As you said, we need money. I will not be able to answer that question until we see the '99 budget. That is the truth.

V.K. JUNAJI: I am V.K. Junaji, from USDA Reasearch, Central Philadelphia. I am not sure about the exact figures, we will be hiring at least four to five permanent scientists and two people are working in my project on this assessment, and also at least two positions in the Planning Center, they will be working on the safety of vegetables and fruits. We did get a lot of money as a result of all these outbreaks. We will be filling up six person positions along with

that that do all basic and applied research to solve the food safety problems. This is all I have to say.

STAN IWANICKI: The other comment I have, I share the concern about the volume of food production that's moving offshore. I think we will see between the pressures from the Food Quality Protection Act and the laws of some major crop concessions to some other requirements that may come about, perhaps with all this guidance, and just the cost of farming these days. My concern is before I retire, which is about ten years from now, we may see significant portions of our food produced offshore.

STACY ZAWELL: Stacy Zawell with United Fresh Fruit and Vegetable Association. It has come up a couple times today what, I would like to do is help you understand from the perspective from our members, what United's members have been telling us, things that they are afraid that the buyers are going to interpret at their own will and ask in fact if somebody is doing something, for instance, if there is a mention that covering your reservoir will help, it

is up to the buyer to interpret that and say, you know, he may come and say are you covering your reservoir, what the public health impact covering your reservoir is going to have.

The other thing is where it is mentioned water quality should be graded for one type of irrigation than another, it states drip irrigation or methods where irrigation water doesn't come in direct contact with produce may be of less risk. The buyer can interpret that to say everybody needs now to use, I want you to use drip irrigatin because I question the water source in that river, or I heard as a matter of that someone found a pathogen in that water. That is good enough for them to interpret and say you should use drip, and you will go out of the business.

The other thing is produce to wash water temperature differential. If that is used and somebody says do you have this ten degree temperature differential and you don't, forget it, you are forgetting all of the other parameters that dictate wash water temperature is there. Instead of focusing on this major number, let's focus on making sure the wash water is clean. The

issue is, while research is being done on apples, Tom, what about all the other commodities it hasn't been applied. So I think we need to insure that the wash water is clean. And there are a number of other examples that some of our members have stated to us they have concern being interpreted by a buyer and other people they supply.

THOMAS GARDINE: And some time during these other grassroot meetings we will hear about this and other ones. We do want a list of them please.

JOHN RAPPA: John Rapa. Just to echo some of the concerns that have been expressed with foreign foods coming into this country. If the same food item was before me, one was marked USA, one was marked some foreign country, I would be selecting what was grown in USA rather than the foreign food item, because of the, you hear many stories regarding foreign countries do not follow the same procedures we do as growing our food substance. That kind of scares me that they are doing things completely different than what we do. They don't use IPM practices as much as we

do, they don't follow herbicide recommendations or pesticide recommendations. You hear stories, you read about them. I think that is a major concern that we are going to be importing items into this country. We need to look into what they are doing so we could feel safe about it.

BEVERLY KENT: Does anyone else have any other comments or questions?

Okay, I would certainly like to thank you all, a sincere thank you all for attending this grassroots meeting today. I think it was a great opportunity for everyone, certainly at the table, for everyone in the audience to hear what others had to say. Certainly we appreciate your comments. I think there was some really good points made today.

UNIDENTIFIED SPEAKER: Can you give the date for the cutoff or the written comments?

BEVERLY KENT: December 19th. You should get a copy of the federal register notice. If you haven't gotten a copy of that, it will be in there.

Are there any questions from the head table, comments?

Okay. Once, again, thanks a lot and have a safe trip home.

C E R T I F I C A T I O N

I hereby certify that the proceedings and evidence are contained fully and accurately in the notes taken by me on the above cause and that this is a correct transcript of the same to the best of my ability.

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